Nevada
Environmental
Restoration
Project

DOE/NV--1133

National Nuclear Security Administration

Post-Closure Inspection Report for the Tonopah Test Range, Nevada

For Calendar Year 2005

Controlled Copy No.:_____

Revision: 0

June 2006

Environmental Restoration
Division

U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office

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DOE/NV--1133

POST-CLOSURE INSPECTION REPORT FOR THE TONOPAH TEST RANGE, NEVADA

FOR CALENDAR YEAR 2005

U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office
Las Vegas, Nevada

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POST-CLOSURE INSPECTION REPORT FOR THE TONOPAH TEST RANGE, NEVADA

FOR CALENDAR YEAR 2005

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ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

CADD	Corrective Action Decision Document
CAS	Corrective Action Site
CAU	Corrective Action Unit
CR	Closure Report
DOE/NV	U.S. Department of Energy, Nevada Operations Office
m	meter(s)
m^2	square meter(s)
NDEP	Nevada Division of Environmental Protection
NNSA/NSO	U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office
ROTC	Record of Technical Change
TTR	Tonopah Test Range

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EXECUTIVE SUMMARY

This report provides the results of the semi-annual post-closure inspections conducted at the closed Corrective Action Unit (CAU) sites located on the Tonopah Test Range (TTR), Nevada. This report covers calendar year 2005 and includes inspection and any repair activities completed at the following nine CAUs :

- CAU 400: Bomblet Pit and Five Points Landfill (TTR)
- CAU 404: Roller Coaster Lagoons and Trench (TTR)
- CAU 407: Roller Coaster RadSafe Area (TTR)
- CAU 423: Area 3 Underground Discharge Point, Building 0360 (TTR)
- CAU 424: Area 3 Landfill Complexes (TTR)
- CAU 426: Cactus Spring Waste Trenches (TTR)
- CAU 427: Area 3 Septic Waste Systems 2, 6 (TTR)
- CAU 453: Area 9 UXO Landfill (TTR)
- CAU 487: Thunderwell Site (TTR)

Post-closure site inspections were conducted on June 1-2, 2005, and November 15-16, 2005. All inspections were conducted according to the post-closure plans in the approved Closure Reports (CRs). The Post-Closure Inspection Plan for each CAU is included in Attachment B, with the exception of CAU 400. CAU 400 does not require post-closure inspections, but inspections of the vegetation and fencing are conducted as a best management practice. The inspection checklists for each site inspection are included in Attachment C; the field notes are included in Attachment D, and the site photographs are included in Attachment E. Vegetation monitoring of CAU 400, CAU 404, CAU 407, and CAU 426 was performed in June 2005, and the vegetation monitoring report is included in Attachment F.

Maintenance and/or repairs were performed at CAU 407, CAU 427, and CAU 487 in 2005.

CAU 407
During the November site inspection of CAU 407 a stand of barbed wire was temporarily reattached to fence posts, and a radiological warning sign reattached to the fence. Permanent site repairs are scheduled for the first quarter of 2006. Also, the CAU 407 cover was reseeded in December, 2004. To encourage the germination of seed and growth of vegetation, the CAU 407 cover was irrigated in February, March, and April, 2005.

CAU 427
Maintenance and repairs at CAU 427 were made on April 6-7, 2005, and consisted of locating and exposing the buried corner markers of five use-restricted areas. The surface location for each buried corner point was remarked with red cinder rock, and the leachfield boundaries marked with paint as needed. During the June site inspection additional red rock was placed over the buried corner markers to aid in locating the site markers in the future. The installation of permanent at-grade monuments for each corner of the use-restricted areas is scheduled for the first quarter of 2006.

CAU 487

Maintenance and repairs conducted at CAU 487 were made on June 20, 2005, and included resetting the northwest corner monument at the A-8 anomaly area, as well as resetting the southeast, northeast, and northwest monuments at the A-17 anomaly area. Also, cracks on the top of the northwest and southeast monuments were repaired during this site inspection.

During the November 2005 site inspections several issues that require maintenance and repairs were noted. These included: subsidence of landfill cell covers at CAU 453; loose and downed fencing and warning signs at CAU 407; downed monuments at CAU 487. Repairs and maintenance are scheduled for the first quarter of 2006, within 90 working days of discovery.

At this time, the TTR post-closure site inspections should continue as scheduled. Any potential problem areas previously identified (e.g., areas of erosion, subsidence, etc.), should be monitored closely, and periodic vegetation surveys of the vegetated covers should continue.

1.0 INTRODUCTION

1.1 SCOPE AND OBJECTIVES

This post-closure inspection report includes the results of inspections, maintenance and repair activities, and conclusions and recommendations for Calendar Year 2005 for nine Corrective Action Units (CAUs) located on the Tonopah Test Range (TTR), Nevada. The locations of the CAUs are shown in Figure 1 of Attachment A. The CAUs and Corrective Action Sites (CASs) covered in this report include the following:

- **CAU 400: Bomblet Pit and Five Points Landfill (TTR)**
  - CAS TA-19-001-05PT: Ordnance Disposal Pit
  - CAS TA-55-001-TAB2: Ordnance Disposal Pit
- **CAU 404: Roller Coaster Lagoons and Trench (TTR)**
  - CAS TA-03-001-TARC: Roller Coaster Lagoons
  - CAS TA-21-001-TARC: Roller Coaster N. Disposal Trench
- **CAU 407: Roller Coaster RadSafe Area (TTR)**
  - CAS TA-23-001-TARC: Roller Coaster RadSafe Area
- **CAU 423: Area 3 Underground Discharge Point, Building 0360 (TTR)**
  - CAS 03-02-002-0308: Underground Discharge Point
- **CAU 424: Area 3 Landfill Complexes (TTR)**
  - CAS 03-08-001-A301: Landfill Cell A3-1
  - CAS 03-08-002-A302: Landfill Cell A3-2
  - CAS 03-08-002-A303: Landfill Cell A3-3
  - CAS 03-08-002-A304: Landfill Cell A3-4
  - CAS 03-08-002-A305: Landfill Cell A3-5
  - CAS 03-08-002-A306: Landfill Cell A3-6
  - CAS 03-08-002-A308: Landfill Cell A3-8
- **CAU 426: Cactus Spring Waste Trenches (TTR)**
  - CAS RG-08-001-RGCS: Waste Trenches
- **CAU 427: Area 3 Septic Waste Systems 2, 6 (TTR)**
  - CAS 03-05-002-SW02: Septic Waste System
  - CAS 03-05-002-SW06: Septic Waste System
- **CAU 453: Area 9 UXO Landfill (TTR)**
  - CAS 09-55-001-0952: Area 9 Landfill
- **CAU 487: Thunderwell Site (TTR)**
  - CAS RG-26-001-RGRV: Thunderwell Site

Post-closure inspections are conducted on a semi-annual basis (twice per calendar year) and consist of the following activities to evaluate and document the condition of the closed units. CAU-specific inspection requirements are included in Attachment B.

- Site inspections and photographs to verify site conditions and note variances from previous inspections
- Inspection of fencing, signs, monuments, and/or markers to determine if repairs and/or maintenance are needed
- Inspection of soil covers for indications of subsidence, erosion, unauthorized use, etc.
- Vegetation survey to quantify the condition of vegetative covers
- Subsidence survey to indicate any cover subsidence
- Preparation and submittal of an annual report

This Post-Closure Inspection Report includes the following sections:

- Section 1.0 - Introduction
- Section 2.0 - Post-Closure Inspections
- Section 3.0 - Summary
- Section 4.0 - References
- Attachment A. Figures
- Attachment B. Post-Closure Inspection Plans
- Attachment C. Post-Closure Inspection Checklists
- Attachment D. Field Notes
- Attachment E. Photographs
- Attachment F. Post-Closure Vegetation Monitoring Report
- Library Distribution List

2.0 POST-CLOSURE INSPECTIONS

Post-closure site inspections of TTR CAUs for the annual period January 2005 through December 2005 were conducted on June 1-2, 2005, and November 15-16, 2005. Copies of Post-Closure Inspection Plans as previously published in the applicable Closure Report (CR) are included in Attachment B. Copies of the site inspection checklists are included in Attachment C, field notes are included in Attachment D, and site photographs are included in Attachment E.

2.1 CAU 400: BOMBLET PIT AND FIVE POINTS LANDFILL (TTR)

2.1.1 Introduction

There are no specific post-closure requirements in the CR for CAU 400, Bomblet Pit and Five Points Landfill (TTR); however, when the sites were vegetated in 1997 under the Tonopah Test Range Closure Site Revegetation Plan (U.S. Department of Energy Nevada Operations Office [DOE/NV], 1997), fencing was installed at the Bomblet Pit (CAS TA-55-001-TAB2, Ordnance Disposal Pit) and the Five Points Landfill (CAS TA-19-001-05PT, Ordnance Disposal Pit). As stated in Section 3.5.4 of the revegetation plan (DOE/NV, 1997), fencing is required at both CASs for a minimum of five years in order to give the plants sufficient time to become established. Therefore, inspections are conducted at CAU 400 to document vegetation growth and inspect the integrity of the fences. Removal of site fencing may be proposed in the future once vegetation on the covers is well established. Vegetation monitoring of CAU 400 was conducted in June 2005, and the results are included in Attachment F.

2.1.2 CAU 400 Inspection Results

2.1.2.1 First Semi-Annual Inspection

Bomblet Pit (CAS TA-55-001-TAB2, Ordnance Disposal Pit)

The Bomblet Pit is presented in Figure 2 of Attachment A. The first inspection was conducted on June 1, 2005. The inspection indicated some minor animal burrows within the site and evidence of horses outside the fence. The cover vegetation was healthy and well established similar to the surrounding area outside the fence. The fence, signs, and cover were in good condition. No issues or concerns were noted that affected the integrity of the unit.

Five Points Landfill (CAS TA-19-001-05PT, Ordnance Disposal Pit)

The Five Points Landfill is presented in Figure 3 of Attachment A. The first inspection was conducted on June 1, 2005. All signs and fencing were in good condition. The reseeded cover area was in good condition with well established vegetation within the fence.

2.1.2.2 Second Semi-Annual Inspection

Bomblet Pit (CAS TA-55-001-TAB2, Ordnance Disposal Pit)

The second inspection was conducted on November 15, 2005. The site was in excellent condition. Vegetation remains healthy and well established. The fence, signs, and cover were in good condition. The U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office (NNSA/NSO) and Nevada Division of Environmental Protection (NDEP) proposed removing the fence following the 2006 inspection if the vegetation remains healthy.

Five Points Landfill (CAS TA-19-001-05PT, Ordnance Disposal Pit)

The second inspection was conducted on November 15, 2005. All signs and fencing were in good condition. Vegetation appeared healthy, but sparse in the central part of the cover from revegetation done in November, 2004. A biologist will evaluate the health of the vegetation in 2006.

2.1.3 CAU 400 Maintenance and Repairs

No maintenance or repairs were conducted at CAU 400 during 2005.

2.1.4 CAU 400 Conclusions and Recommendations

Both the Bomblet Pit and the Five Points Landfill are in excellent condition. As stated in the revegetation plan (DOE/NV, 1997), the sites are to be fenced for a minimum of five years in order to give the vegetation sufficient time to become established. Based on the results of the 2005 inspections and the Post-Closure Vegetation Monitoring Report (Attachment F), it has been determined that the vegetation is not currently sufficiently established to remove the fences. However, during the November 15 inspection, the NNSA/NSO and NDEP proposed removing the fencing at both sites if after the 2006 inspections, the vegetation has matured to the same extent as the surrounding undisturbed areas. Until this is determined, both sites will remain fenced and semi-annual site inspections continued.

2.2 CAU 404: ROLLER COASTER LAGOONS AND TRENCH (TTR)

2.2.1 Introduction

CAU 404, Roller Coaster Lagoons and Trench (TTR), consists of two CASs (CAS TA-03-001-TARC, Roller Coaster Lagoons; and CAS TA-21-001-TARC, Roller Coaster N. Disposal Trench). Post-closure requirements are described in the CR for CAU 404 (DOE/NV, 1998a), which was approved by the NDEP on May 18, 1999.

Site inspections were conducted on June 1, 2005, and November 15, 2005. A diagram showing the site location and configuration is presented as Figure 4 of Attachment A. The site inspections were conducted according to the CAU 404 Post-Closure Inspection Plan (Attachment B). In addition to site inspections, vegetation monitoring of the site was conducted in June 2005, and the results are included in Attachment F.

2.2.2 CAU 404 Inspection Results

2.2.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 1, 2005. This site was in good condition. No damage was noted to the fencing, signs, or cover. The vegetation was healthy and well established. Some small animal burrows were noted, but no maintenance or repairs were needed.

2.2.2.2 Second Semi-Annual Inspection

The second inspection was completed on November 15, 2005. The unit was in good condition. Several small animal burrows were present along the fence line and were backfilled by hand during the site inspection. The fence was in good condition, and all warning signs were intact

and legible. No erosion, subsidence, or cracking of the cover was observed and the vegetation on the cover was healthy.

2.2.3 CAU 404 Maintenance and Repairs

No maintenance or repairs were conducted at CAU 404 during 2005.

2.2.4 CAU 404 Conclusions and Recommendations

The cover, fence, posted warning signs, and gates are all in good condition. The site inspections should continue as scheduled.

2.3 CAU 407: ROLLER COASTER RADSAFE AREA (TTR)

2.3.1 Introduction

CAU 407, Roller Coaster RadSafe Area (TTR), consists of one CAS (CAS TA-23-001-TARC, Roller Coaster RadSafe Area). The post-closure requirements for CAU 407 are described in the CR (DOE/NV, 2001a). Revision 1 of the CR was approved by the NDEP on February 22, 2002. Section 5.2 of the CR calls for site inspections to be conducted within the first six months following completion of cover construction. Following the first six months, site inspections are to be conducted twice yearly for the next two years. Previous inspections have noted erosion rills on the cover margins, and subsequent maintenance was completed to repair the rills and help prevent future erosion.

Site inspections were conducted on June 1, 2005, and November 15, 2005. A diagram showing the site location and configuration is presented in Figure 5 of Attachment A. The site inspections were conducted according to the CAU 407 Post-Closure Inspection Plan (Attachment B). In addition to site inspections, vegetation monitoring of the site was conducted in June 2005, and the results are included in Attachment F.

2.3.2 CAU 407 Inspection Results

2.3.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 1, 2005. The inspection indicated the cover is in good condition. New vegetation was present on the cover and has become established. Irrigation will continue until it is determined that the vegetation is self sufficient by a biologist. Some small animal burrows were present within the fence, but are not a problem at this time. The fence and warning signs were intact and in good condition.

2.3.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 15, 2005. Small animal burrows were present within the fence, but do not affect the integrity of the cover. No erosion cracks or subsidence of the cover was observed during the inspection. The top strand of the barbed-wire fence was broken on the south side of the site, extending approximately 100 ft from the gate. Also, a radiological warning sign was loose due to high winds. The wire strand and warning sign were temporarily reattached during the inspection.

2.3.3 CAU 407 Maintenance and Repairs

During the November 2005 inspection of CAU 407, a loose strand of barbed wire and a radiological warning sign were temporarily reattached. Re-tensioning the barbed wire fence and permanently reattaching the warning sign is scheduled for the first quarter of 2006. Also, the cover was reseeded in December 2004 and was irrigated in February, March, and April, 2005, to supplement natural precipitation to encourage seed germination.

2.3.4 CAU 407 Conclusions and Recommendations

This site is in good condition. The site inspections should continue as scheduled, and the health of the vegetation and integrity of the cover monitored, until the site has stabilized.

2.4 CAU 423: AREA 3 UNDERGROUND DISCHARGE POINT, BUILDING 0360 (TTR)

2.4.1 Introduction

CAU 423, Area 3 Underground Discharge Point, Building 0360, consists of one CAS (CAS 03-02-002-0308, Underground Discharge Point). CAU 423 was closed in place, with one warning sign and one at-grade monument installed, as detailed in the CR (DOE/NV, 1999a). The CR did not require post-closure inspections. A Record of Technical Change (ROTC) to the CR (NNSA/NSO, 2005a) specifying the post-closure inspection requirements was approved by the NDEP on June 6, 2005 (Attachment B). Site inspections were conducted on June 2, 2005, and November 16, 2005. A diagram showing the site location and configuration is presented in Figure 6 of Attachment A.

2.4.2 CAU 423 Inspection Results

2.4.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 2, 2005. The warning sign and at-grade monument are in excellent condition. NNSA has requested that the piping running to the underground discharge point be removed. The work is scheduled for the second half of 2006.

2.4.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 16, 2005. The site was in excellent condition. The warning sign and at-grade monument are in good condition.

2.4.3 CAU 423 Maintenance and Repairs

No maintenance or repairs at CAU 423 were conducted in 2005.

2.4.4 CAU 423 Conclusions and Recommendations

The warning sign and at-grade monument are in good condition. The site inspections should continue as scheduled.

2.5 CAU 424: AREA 3 LANDFILL COMPLEXES (TTR)

2.5.1 Introduction

CAU 424, Area 3 Landfill Complexes (TTR), consists of eight CASs. Seven landfill cells (CAS 03-08-001-A301, Landfill Cell A3-1; CAS 03-08-002-A302, Landfill Cell A3-2; CAS 03-08-002-A303, Landfill Cell A3-3; CAS 03-08-002-A304, Landfill Cell A3-4; CAS 03-08-002-A305, Landfill Cell A3-5; CAS 03-08-002-A306, Landfill Cell A3-6; and CAS 03-08-002-A308, Landfill Cell A3-8) were closed with soil covers and require post-closure inspections. CAS 03-08-002-A307, Landfill Cell A3-7, was not used as a landfill site and was closed without taking any corrective action. CAU 424 closure activities included removing small volumes of soil containing petroleum hydrocarbons, repairing cell covers that were cracked and/or had subsided, and installing above-grade and at-grade monuments to mark the corners of the landfill cells. Post-closure requirements for CAU 424 are detailed in the CR, which was approved by the NDEP in July 1999 (DOE/NV, 1999b).

Site inspections of the seven CASs were conducted on June 1, 2005, and November 15, 2005. A diagram showing the landfill locations is presented in Figure 7 of Attachment A. The site inspections were conducted according to the CAU 424 Post-Closure Inspection Plan (Attachment B).

2.5.2 CAU 424 Inspection Results

2.5.2.1 First Semi-Annual Inspection

The first site inspection was conducted on June 1, 2005.

Landfill Cell A3-1 (CAS 03-08-001-A301)
Landfill Cell A3-1 is located at the north end of CAU 424 and is the largest of the landfill cells. The cover and seven above-grade concrete monuments that demarcate the landfill cell were examined. All signs, survey markers, and monuments were in good condition. Vegetation is established throughout the site and no cracking, erosion or subsidence of the cover was observed. No issues were noted with the repairs made in 2004.

Landfill Cell A3-2 (CAS 03-08-002-A302)
Landfill Cell A3-2 is located due south of Landfill Cell A3-1. The overall condition of the unit was good. All four above-grade monuments and the landfill cover were examined and found to be in good condition. All signs and brass survey markers were legible and intact. No signs of erosion, subsidence, or unauthorized use were observed.

Landfill Cell A3-3 (CAS 03-08-002-A303)
Landfill Cell A3-3 straddles the western fence of the TTR Area 3 Compound, with the portions of the landfill outside the fence marked by three above-grade monuments, and the portion inside the fence marked by three at-grade monuments. The overall condition of the site was good. All six monuments were located and inspected. All monuments, brass survey markers, and warning signs were in good condition. No subsidence, cracking, or erosion was observed. Sparse vegetation was present near the above-grade monuments, but none was present near the at-grade monuments. No issues or concerns were observed for this site.

Landfill Cell A3-4 (CAS 03-08-002-A304)
Landfill Cell A3-4 is located south of Dykes Drive at the south end of the CAU. Five above-grade monuments and one at-grade brass survey marker were located and inspected. All monuments, the brass survey marker, and warning signs were in good condition. Repairs made to the cover at the end of the 2004 are intact and no subsidence or low areas present. Vegetation is beginning to become established throughout the site.

Landfill Cell A3-5 (CAS 03-08-002-A305)
Landfill Cell A3-5 is located west of Moody Avenue inside a fenced area in Area 10 south of the Air Force First-Aid Station. All four above-grade monuments and attached warning signs and brass survey markers were located and found to be in excellent condition. No evidence of subsidence, cracking, or erosion was observed, and sparse vegetation is present. The overall condition of the site is excellent.

Landfill Cell A3-6 (CAS 03-08-002-A306)
Landfill Cell A3-6 is located immediately west and outside of the fence of the TTR Area 3 Compound. All four above-grade monuments and attached warning signs and brass survey markers were located and found to be in good condition. The overall condition of the landfill cover was good. No evidence of subsidence, cracking, or erosion was observed. Some small animal burrows were found, but do not affect the integrity of the cover.

Landfill Cell A3-8 (CAS 03-08-002-A308)
Landfill Cell A3-8 is located southwest of the Area 3 Compound in the box car storage yard. Three of the four at-grade brass markers were located and determined to be in good condition. The southwest corner monument was not located due to its location in a posted radioactive materials area and the presence of surface debris. There was no indication that the debris was impacting the condition of the monument. The monument will be inspected in future inspections when the surface debris is removed. No erosion, subsidence, or unauthorized use was observed at the site. The overall condition of the cover was good.

2.5.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 15, 2005.

Landfill Cell A3-1 (CAS 03-08-001-A301)
All signs and survey markers were intact, and legible. The seven above-grade monuments were in good condition. No cracking, erosion, or unauthorized use of the cover was observed. The overall condition of the site was good.

Landfill Cell A3-2 (CAS 03-08-002-A302)
The four above-grade monuments were located and found to be in good condition. The signs and brass survey markers were also in good condition. Vegetation was widely dispersed on the cover. The overall condition of the unit was good.

Landfill Cell A3-3 (CAS 03-08-002-A303)
The three above-grade monuments and three at-grade monuments were located and inspected. All monuments, brass survey markers, and signs were in good condition. No subsidence or erosion was observed. No issues or concerns were observed for this site.

Landfill Cell A3-4 (CAS 03-08-002-A304)
The five above-grade monuments and one at-grade brass survey marker were located and inspected. All monuments, the brass survey marker, and warning signs were in good condition. The cover showed no erosion, subsidence, or unauthorized use and the vegetation was healthy and well established.

Landfill Cell A3-5 (CAS 03-08-002-A305)
The four above-grade monuments were located and inspected. The monuments, attached warning signs, and survey markers were in good condition. The vegetation growing on the cover was healthy. No evidence of subsidence, cracking, or erosion was observed. The overall condition of the landfill cover was good.

Landfill Cell A3-6 (CAS 03-08-002-A306)
The four above-grade monuments were located and inspected. The monuments and survey markers were in good condition. The warning signs were intact and legible. No evidence of subsidence, cracking, or erosion was observed. The overall condition of the site was good.

Landfill Cell A3-8 (CAS 03-08-002-A308)
Three of the four at-grade monuments were located and found to be in good condition. The southwest corner monument is located in a posted and fenced radioactive materials area where it can not be visually inspected. The corner monument is also covered by debris, but does not appear to be impacted by the debris, and there is no sign of ground disturbance. No erosion, subsidence, or cracking was observed. The overall condition of the site was good.

2.5.3 CAU 424 Maintenance and Repairs

No maintenance or repairs at CAU 424 were conducted in 2005.

2.5.4 CAU 424 Conclusions and Recommendations

All seven CASs in CAU 424 are in good condition. The site inspections should continue as scheduled monitoring the landfill soil covers, markers, and warning signs.

2.6 CAU 426: CACTUS SPRING WASTE TRENCHES (TTR)

2.6.1 Introduction

CAU 426, Cactus Spring Waste Trenches (TTR), consists of one CAS (CAS RG-08-001-RGCS, Waste Trenches). The post-closure requirements are described in the CR for CAU 426 (DOE/NV, 1998b), which was approved by the NDEP on May 13, 1999.

Site inspections were conducted on June 2, 2005, and November 15, 2005. A diagram showing the site location and configuration is presented in Figure 8 of Attachment A. The site inspections were conducted according to the CAU 426 Post-Closure Inspection Plan (Attachment B). In addition to site inspections, vegetation monitoring of the site was conducted in June 2005, and the results are included in Attachment F.

2.6.2 CAU 426 Inspection Results

2.6.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 2, 2005. The fence perimeter was walked and the site was found to be in good condition. There was no damage to the perimeter fencing or signs. The signs were intact and legible. No erosion, subsidence, or unauthorized use was observed. Vegetation was well established and healthy throughout the site. Some small animal burrows were noted along the fence and at the toe of the cover, but do not affect the integrity of the cover. No site maintenance or repairs are needed.

2.6.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 15, 2005. The overall condition of the unit was good. The fence was in excellent condition, and the wire mesh along the base of the fence was intact. Several small animal burrows were noted around the fence, but they do not affect the integrity of the unit. The signs were legible and in good condition. The vegetation was healthy and has stabilized the soil cover. No subsidence, cracking, or unauthorized use was observed.

2.6.3 CAU 426 Maintenance and Repairs

No maintenance or repairs were conducted at CAU 426 during 2005.

2.6.4 CAU 426 Conclusions and Recommendations

The cover, fence, and posted warning signs are all in excellent condition. The site inspections should continue as scheduled.

2.7 CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2, 6 (TTR)

2.7.1 Introduction

CAU 427, Area 3 Septic Waste Systems 2, 6 (TTR), consists of two CASs (CAS 03-05-002-SW02, Septic Waste System; and CAS 03-05-002-SW06, Septic Waste System). The closed leachfields are located in the TTR Area 3 compound in a high traffic area. For this reason, the leachfield corners are marked by subsurface metal markers each covered with red cinder rock to the ground surface. The red rock aids in visually locating the markers during site inspections. Post-closure requirements for CAU 427 are detailed in the CR for CAU 427 (DOE/NV, 1999c), which was approved by the NDEP on August 27, 1999.

Site inspections were conducted on June 2, 2005, and November 16, 2005. A diagram showing the site location and configuration is presented in Figure 9 of Attachment A. The site inspections were conducted according to the CAU 4227 Post-Closure Inspection Plan (Attachment B).

2.7.2 CAU 427 Inspection Results

2.7.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 2, 2005. All 21 subsurface metal markers were located at the corners of Leachfield A (four markers), Leachfield B (four markers), Abandoned Leachfield (four markers), Pre-1965 Leachfield (four markers), and Septic Tank 33-5 (five markers). The five warning signs were intact, in place, and legible. The site was in good condition, and no maintenance or repairs were needed.

2.7.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 16, 2005. All 21 subsurface metal markers were located at the corners of Leachfield A (four markers), Leachfield B (four markers), Abandoned Leachfield (four markers), Pre-1965 Leachfield (four markers), and Septic Tank 33-5 (five markers). The five warning signs were located and found to be in good condition. No vegetation was present, and no evidence of subsidence, erosion, or intrusive activities into the use restricted areas was noted. The overall condition of the site was good.

2.7.3 CAU 427 Maintenance and Repairs

On April 6-7, 2005, the 21 subsurface corner locations for the five use-restricted areas (4 leachfields and 1 removed septic tank) were located and the overburden removed to expose the markers. Each shallow excavation was then backfilled with red cinder rock to the ground surface to aid in visually locating the markers during future inspections. See field notes for work in Attachment C

2.7.4 CAU 427 Conclusions and Recommendations

Overall the site was in good condition and site inspections should continue as scheduled. During the second inspection NNSA/NSO and NDEP requested that the subsurface corner markers be replaced with at-grade or slightly sub-grade monuments in 2006 to better mark the use restricted areas. This work is scheduled for the first half of 2006.

2.8 CAU 453: AREA 9 UXO LANDFILL (TTR)

2.8.1 Introduction

CAU 453, Area 9 UXO Landfill (TTR), consists of one CAS (CAS 09-55-001-0952, Area 9 Landfill). Post-closure requirements for CAU 453 are described in the CR for CAU 453 (DOE/NV, 1999d), which was approved by the NDEP on September 10, 1999.

Site inspections were conducted on June 2, 2005, and November 16, 2005. A diagram showing the site location and configuration is presented in Figure 10 of Attachment A. The site inspections were conducted according to the CAU 453 Post-Closure Inspection Plan (Attachment B).

2.8.2 CAU 453 Inspection Results

2.8.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 2, 2005. The fence, signs, 16 above-ground monuments, and covers were all in excellent condition. Some small animal burrows were noted during the inspection but do not affect the integrity of the covers.

2.8.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 16, 2005. The fence, signs, and 16 above-grade monuments were in good condition. There was no lock present on the gate during the time of the inspection so a new lock will be installed. Significant subsidence was observed on the east end of cell A9-3, and one small but deep area of subsidence was noted on cell A9-1 (Figure10 of Attachment A). Several areas of subsidence are approximately one to three feet

long; however, there is one large area approximately 70 by 30 feet long. These subsidence areas are shown in photographs 41 and 42 in Attachment E.

2.8.3 CAU 453 Maintenance and Repairs

TTR Security placed a new lock on the CAU 453 gate in 2005.

2.8.4 CAU 453 Conclusions and Recommendations

The fence, posted warning signs, and monuments are all in good condition. The site inspections should continue as scheduled. The areas of subsidence found during the November inspection are scheduled for repair in the beginning of 2006.

2.9 CAU 487: THUNDERWELL SITE (TTR)

2.9.1 Introduction

CAU 487, Thunderwell Site (TTR) consists of one CAS (CAS RG-26-001-RGRV, Thunderwell Site). The Corrective Action Decision Document (CADD)/CR was approved by the NDEP on December 17, 2001 (DOE/NV, 2001b). Buried waste and debris were present at the site but no contamination was found. Land-Use Restrictions were implemented at the site as explained in the CADD/CR, but no post-closure inspections were proposed. Two separate land-Use Restrictions were implemented to address areas associated with subsurface geophysical anomalies (anomalies A-8 and A-17). Concrete monuments were installed at both locations of buried waste. A ROTC to modify the CADD/CR to include post-closure inspections and Use Restrictions information was approved by the NDEP on July 30, 2004 (NNSA/NSO, 2004a).

Site inspections were conducted on June 2, 2005, and November 16, 2005. A diagram showing the site location and configuration is presented in Figure 11 of Attachment A.

2.9.2 CAU 487 Inspection Results

2.9.2.1 First Semi-Annual Inspection

The first inspection was conducted on June 2, 2005. All warning signs were in place, intact, and legible. At anomaly A-8 the northwest corner monument was knocked down and lying on the ground. At anomaly A-17 the northwest, northeast, and southeast monuments were also knocked down. Hoof prints and horse droppings located at the northeast monument indicated that wild horses were responsible for upending the monuments. Cracks were found near the tops of the northwest and southeast monuments. The monuments are scheduled to be repaired and reinstalled before the November, 2005 site inspection.

2.9.2.2 Second Semi-Annual Inspection

The second inspection was conducted on November 16, 2005. As with the first inspection, one monument was knocked down at anomaly A-8 and three monuments were knocked down at anomaly A-17, and, the tops of two monuments were cracked. Again there were hoof prints and horse droppings located near the monuments indicating that wild horses had caused the damage. All warning signs were legible and in good condition.

2.9.3 CAU 487 Maintenance and Repairs

On June 20, 2005, the four above-grade concrete monuments at anomaly A-8 and one monument at A-17 were reinstalled and the tops of the monuments repaired. The repairs required as a result of the second site inspection are scheduled for early in 2006.

2.9.4 CAU 487 Conclusions and Recommendations

The required repairs to the monuments following the second site inspection are scheduled for early 2006. To prevent future damage the base of the monuments will be set approximately 1.5 foot below ground surface. Site inspections should continue as scheduled.

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3.0 SUMMARY

3.1 CAU 400: BOMBLET PIT AND FIVE POINTS LANDFILL (TTR)

Site inspections at CAS TA-55-001-TAB2, Ordnance Disposal Pit (Bomblet Pit) indicated that the site is in excellent condition. All fencing, signs, and vegetation are in good condition. NNSA and NDEP recommended removing the fence after the 2006 inspections if the vegetation has matured to the same extent as the surrounding areas.

Site inspections at CAS TA-19-001-05PT, Ordnance Disposal Pit (Five Points Landfill) indicated vegetation is establishing well from the revegetation in 2004. No maintenance or repairs were conducted for CAU 400 during 2005. The sites are in good condition and site inspections should continue as scheduled.

3.2 CAU 404: ROLLER COASTER LAGOONS AND TRENCH (TTR)

Both site inspections indicated that the site was in good condition, and there was no damage noted to the fencing, signs, or cover. Some minor animal burrowing was noted, but no maintenance or repairs were needed. The site was in good condition and site inspections should continue as scheduled.

3.3 CAU 407: ROLLER COASTER RADSAFE AREA (TTR)

Site inspections indicated that the cover and warning signs were in good condition. The cover was irrigated in February, March, and April 2005 and will continue until determined to be no longer necessary by a biologist. Small animal burrows were observed outside the fence, but do not affect the integrity of the unit. Temporary repairs to the barbed wire fence and a warning sign were made during the November 2005 site inspection. Permanent repairs of the fence and sign are scheduled for early 2006. The site was in good condition and site inspections should continue as scheduled.

3.4 CAU 423: AREA 3 UNDERGROUND DISCHARGE POINT, BUILDING 0360 (TTR)

Site inspections indicated that the unit was in good condition. The warning sign and at-grade monument were located and found to be in good condition. No maintenance or repairs at CAU 423 were done in 2004. The site was in good condition and site inspections should continue as scheduled.

3.5 CAU 424: AREA 3 LANDFILL COMPLEXES (TTR)

Site inspections indicated that all signs and survey markers were in good condition. No subsidence, cracking, or unauthorized use of the cover was observed. All monuments were located and found to be in good condition. The site is in excellent condition and inspections should continue as scheduled.

3.6 CAU 426: CACTUS SPRING WASTE TRENCHES (TTR)

The site inspections indicated that the site was in good condition. All signs were intact, in place, and legible, the fence and cover are in good condition. Some small animal burrows were noted near the fence and the toe of the cover, but do not affect the integrity of the unit. The site was in good condition and site inspections should continue as scheduled.

3.7 CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2, 6 (TTR)

During April 2005, maintenance work at CAU 427 was performed and consisted of exposing the buried corner points and adding red cinder rocks to help locate the markers in the future. NNSA/NSO and NDEP requested that the corner subsurface plates be replaced with at-grade or slightly sub-grade monuments in 2006. The five use restriction warning signs were intact and legible. Overall the site was in good condition and site inspections should continue as scheduled.

3.8 CAU 453: AREA 9 UXO LANDFILL (TTR)

Site inspections indicated that the fence, signs, and monuments were in good condition. During the second site inspection several areas of cover subsidence were identified at A9-1 and A9-3. A9-1 only had small areas of subsidence, while A9-3 had significantly greater areas of subsidence. Repairs will be conducted in the beginning of 2006. Site inspections should continue as scheduled,

3.9 CAU 487: THUNDERWELL SITE (TTR)

During the first site inspection four monuments were reported knocked down and damaged. These monuments were repaired and reinstalled on June 20, 2005. During the second site inspection, again, four monuments were observed to be over turned and damaged. These monuments are scheduled to be repaired and reinstalled below grade early in 2006. Site inspections should continue as scheduled.

4.0 REFERENCES

DOE/NV, see U.S. Department of Energy, Nevada Operations Office.

NNSA/NSO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office.

U.S. Department of Energy, Nevada Operations Office. 1997. Tonopah Test Range Closure Sites Revegetation Plan, DOE/NV/11718-115 UC-702. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1998a. Closure Report for Corrective Action Unit 404: Roller Coaster Sewage Lagoons and North Disposal Trench, Tonopah Test Range, Nevada, DOE/NV/11718-187 UC-702. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1998b. Closure Report for Corrective Action Unit 426: Cactus Spring Waste Trenches, Tonopah Test Range, Nevada, DOE/NV/11718-226 UC-702. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999a. Closure Report for Corrective Action Unit 423: Area 3 Building 03-60 Underground Discharge Point, Tonopah Test Range, Nevada, DOE/NV/11718--319. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999b. Closure Report for Corrective Action Unit 424: Area 3 Landfill Complexes, Tonopah Test Range, Nevada, DOE/NV/11718--283. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999c. Closure Report for Corrective Action Unit 427: Area 3 Septic Waste Systems 2 and 6, Tonopah Test Range, Nevada, DOE/NV/11718--326. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999d. Closure Report for Corrective Action Unit 453: Area 9 UXO Landfill, Tonopah Test Range, Nevada, DOE/NV/11718--284. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2001a. Closure Report for Corrective Action Unit 407: Roller Coaster RadSafe Area, Tonopah Test Range, Nevada, DOE/NV/11718--694-REV1. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2001b. Corrective Action Decision Documents/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada, DOE/NV/11718--761. Las Vegas, NV.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2004a. Record of Technical Change No. 2 for the Final Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada, Revision 0, November 2001. Las Vegas, NV.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2005a. Record of Technical Change No. CR-1 for the Final Closure Report for Corrective Action Unit 423: Area 3 Building 0360 Underground Discharge Point, Tonopah Test Range, Nevada, Revision 0, July 1999. Las Vegas, NV.

ATTACHMENT A.
FIGURES

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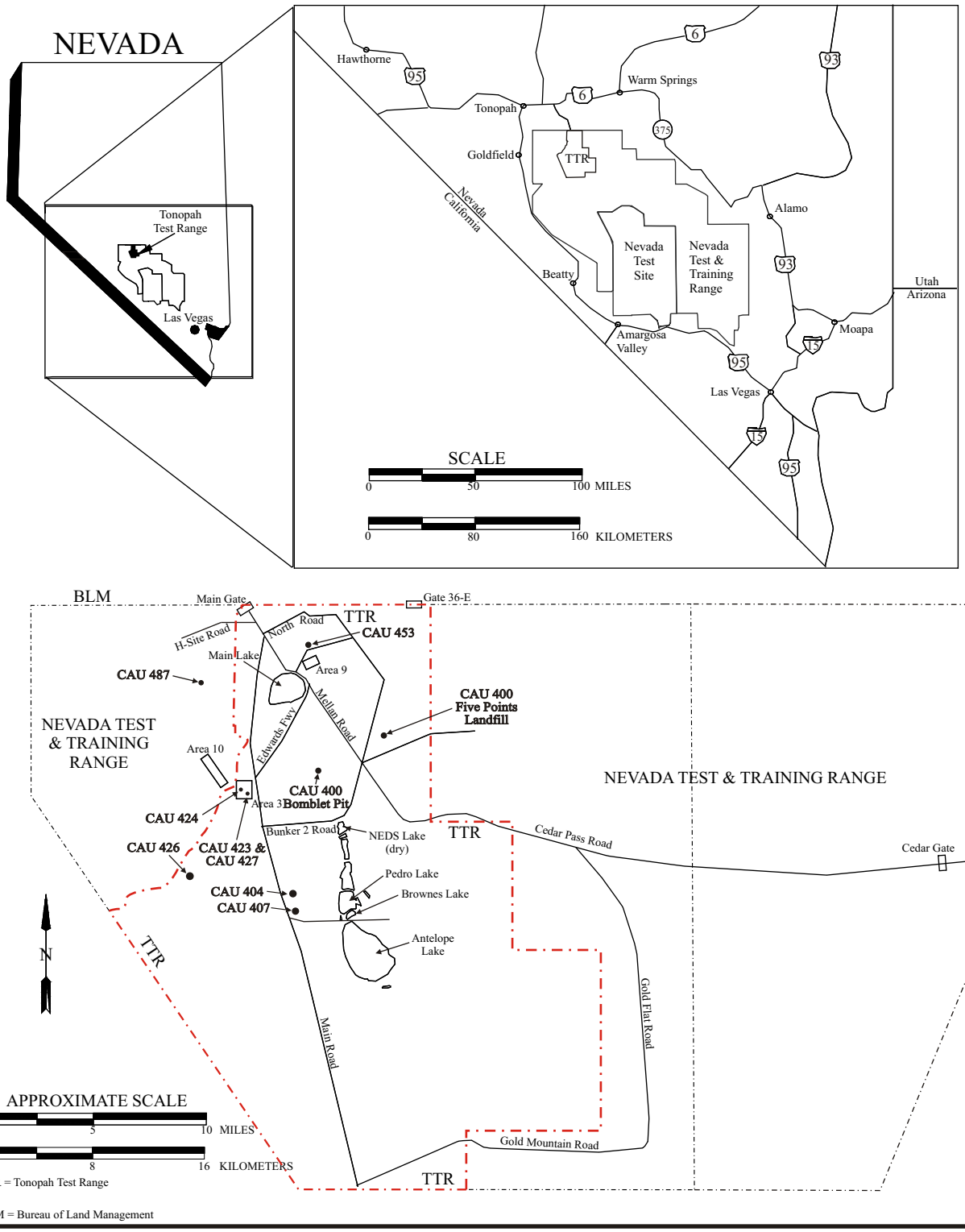

FIGURE 1
TONOPAH TEST RANGE
POST-CLOSURE INSPECTION SITES LOCATION MAP

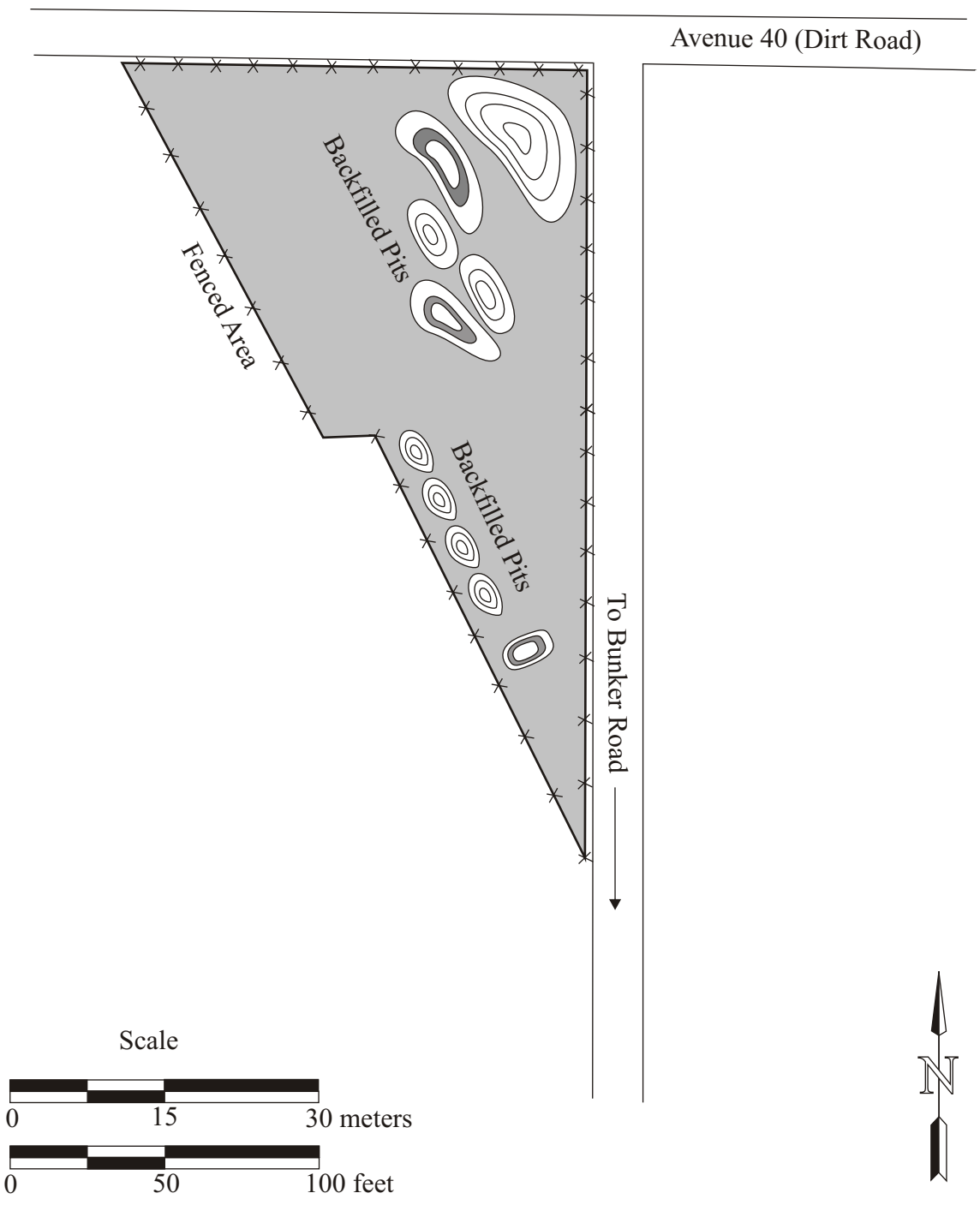

FIGURE 2
CAU 400 BOMBLET PIT LOCATION MAP

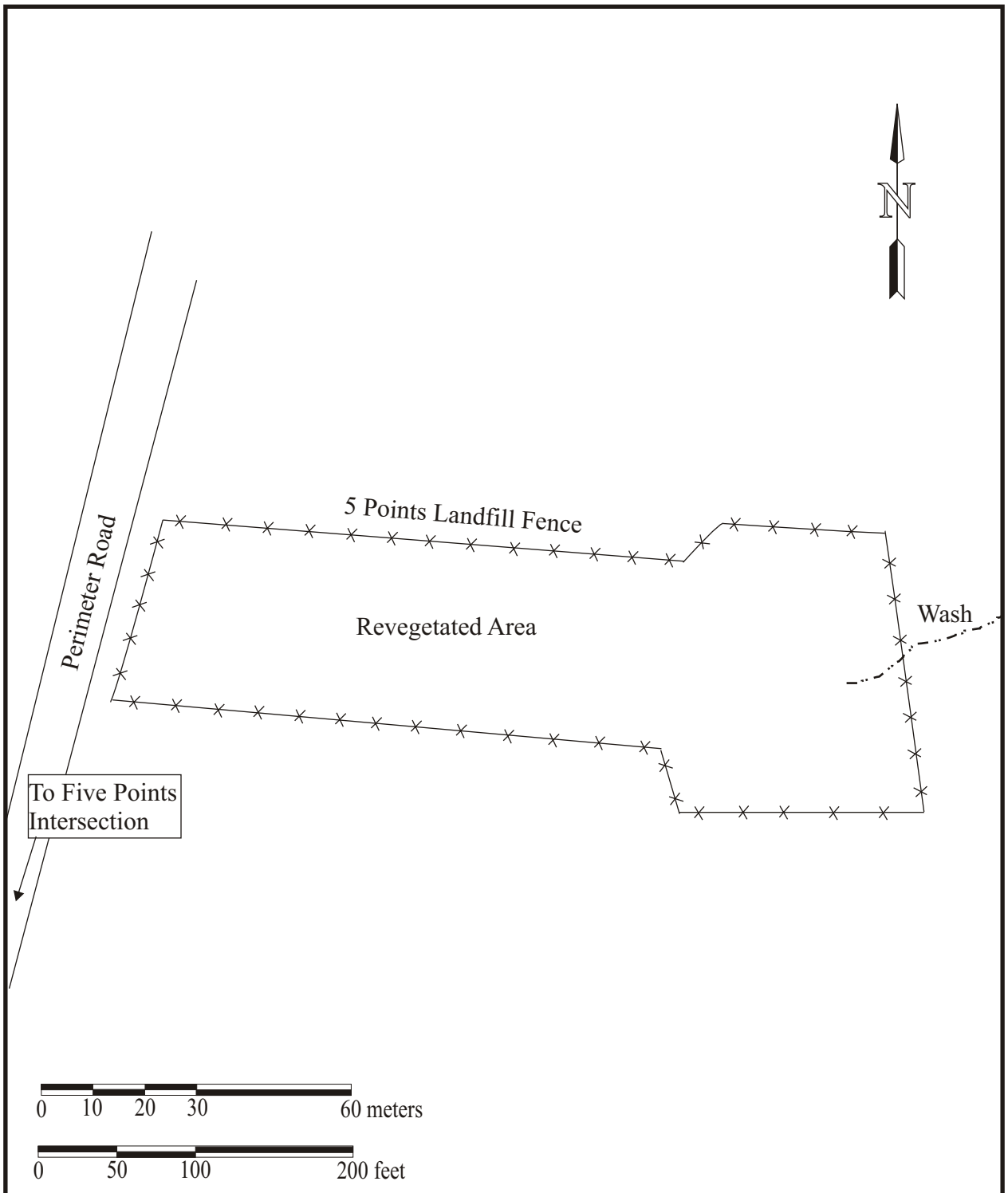

FIGURE 3
CAU 400 FIVE POINTS LANDFILL LOCATION MAP

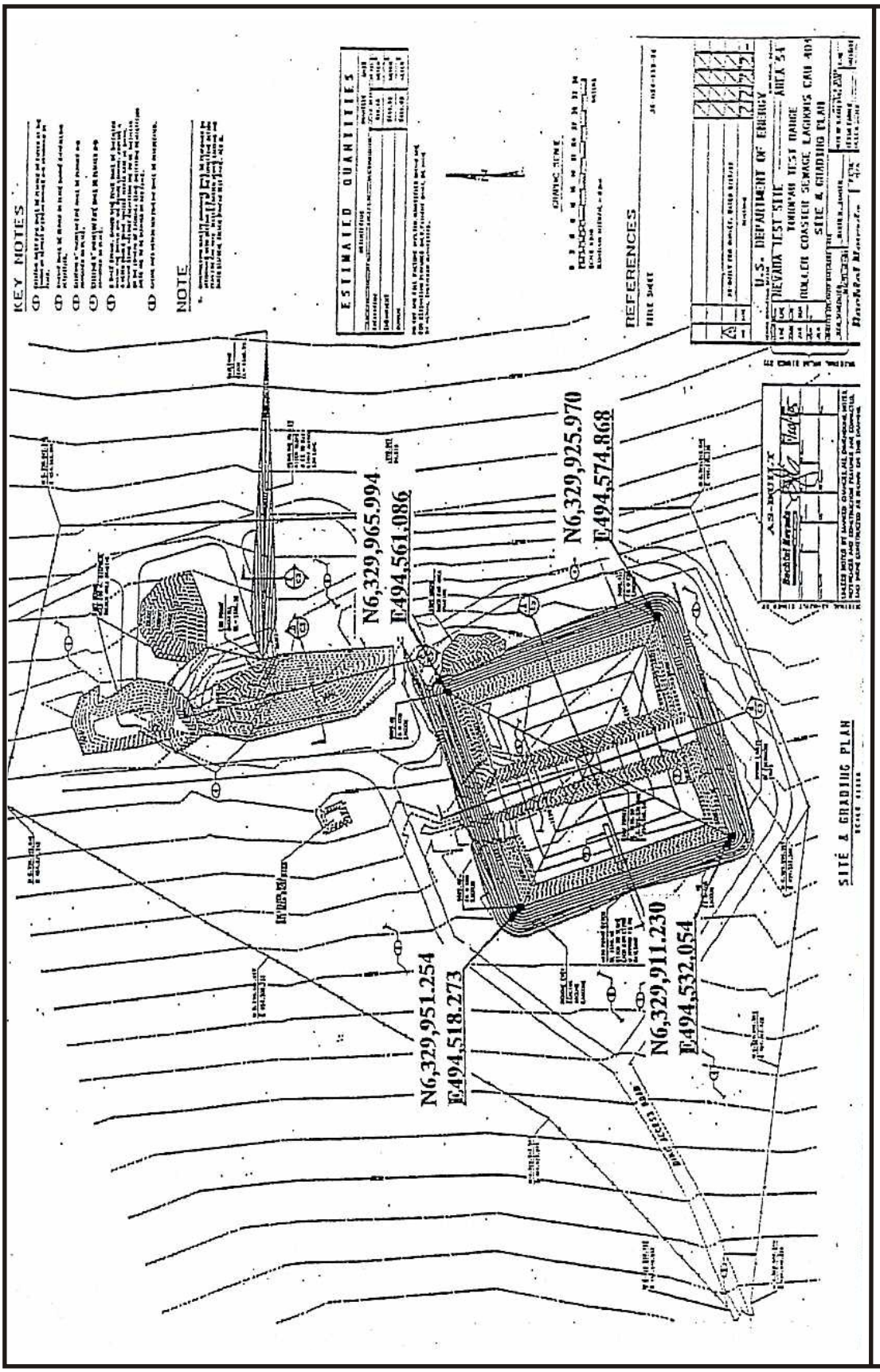

FIGURE 4
CAU 404 ROLLER COASTER LAGOONS AND TRENCH LOCATION MAP

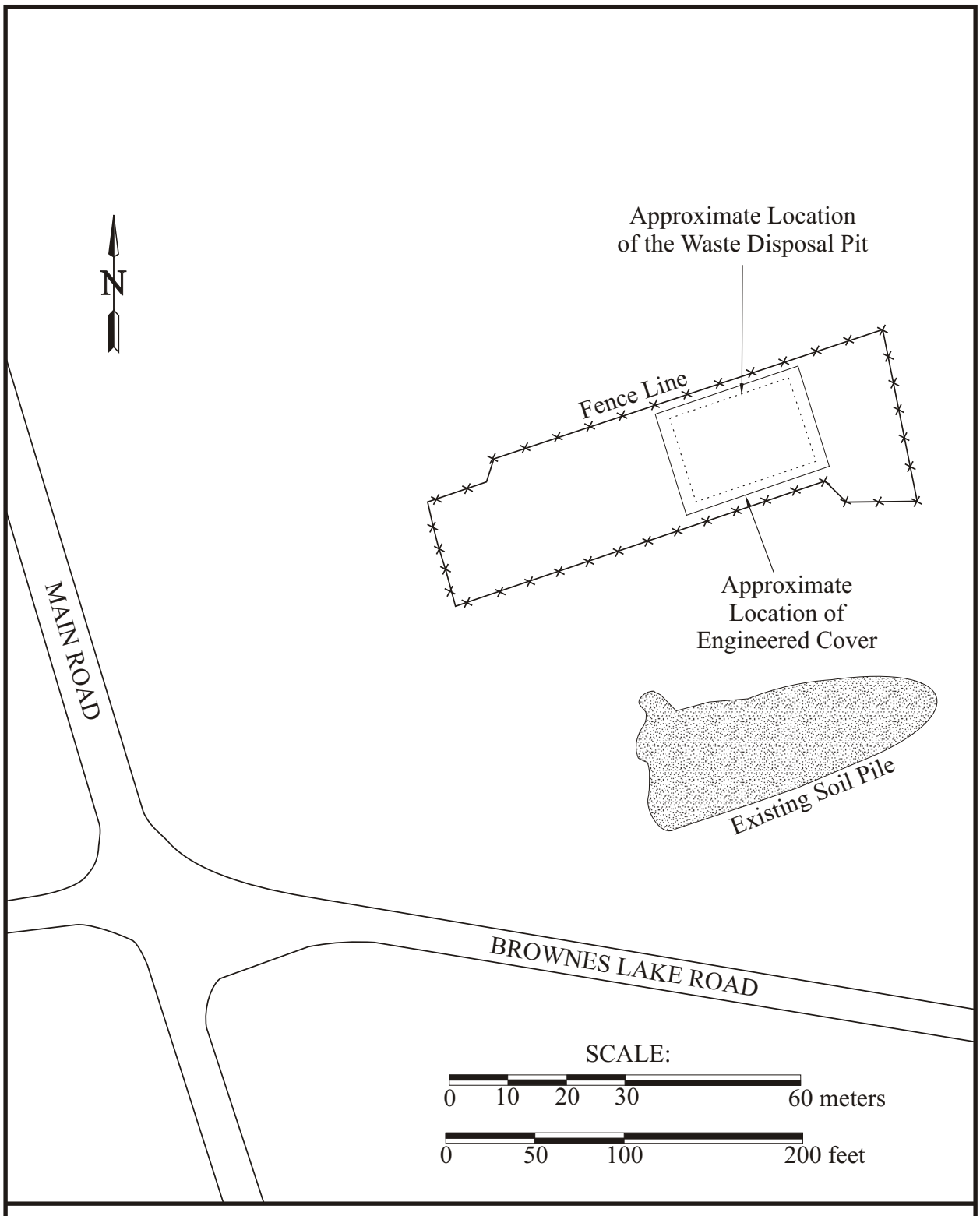

FIGURE 5
CAU 407 ROLLER COASTER RADSAFE AREA LOCATION MAP

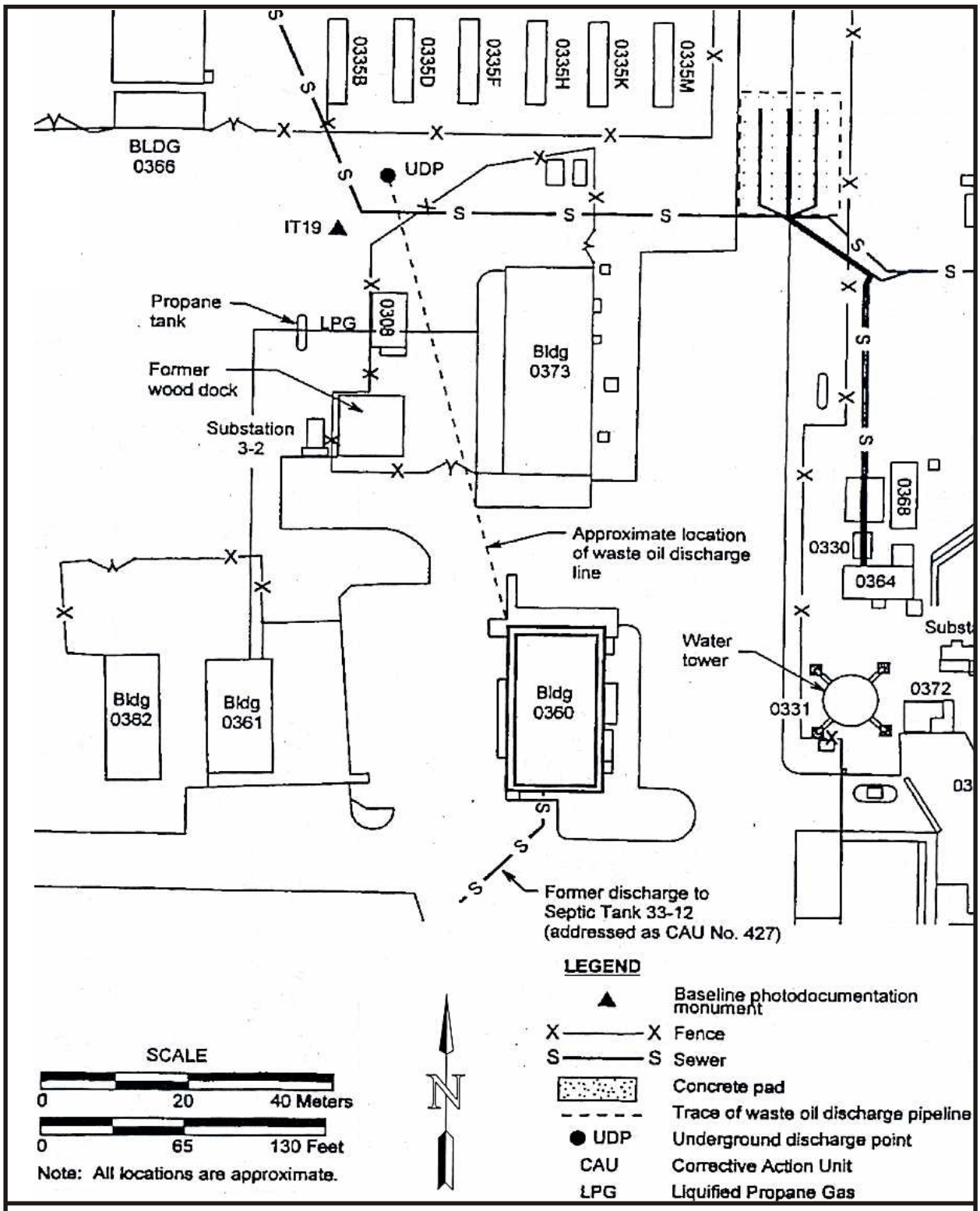

FIGURE 6
CAU 423 AREA 3 UNDERGROUND DISCHARGE POINT,
BUILDING 0360 LOCATION MAP

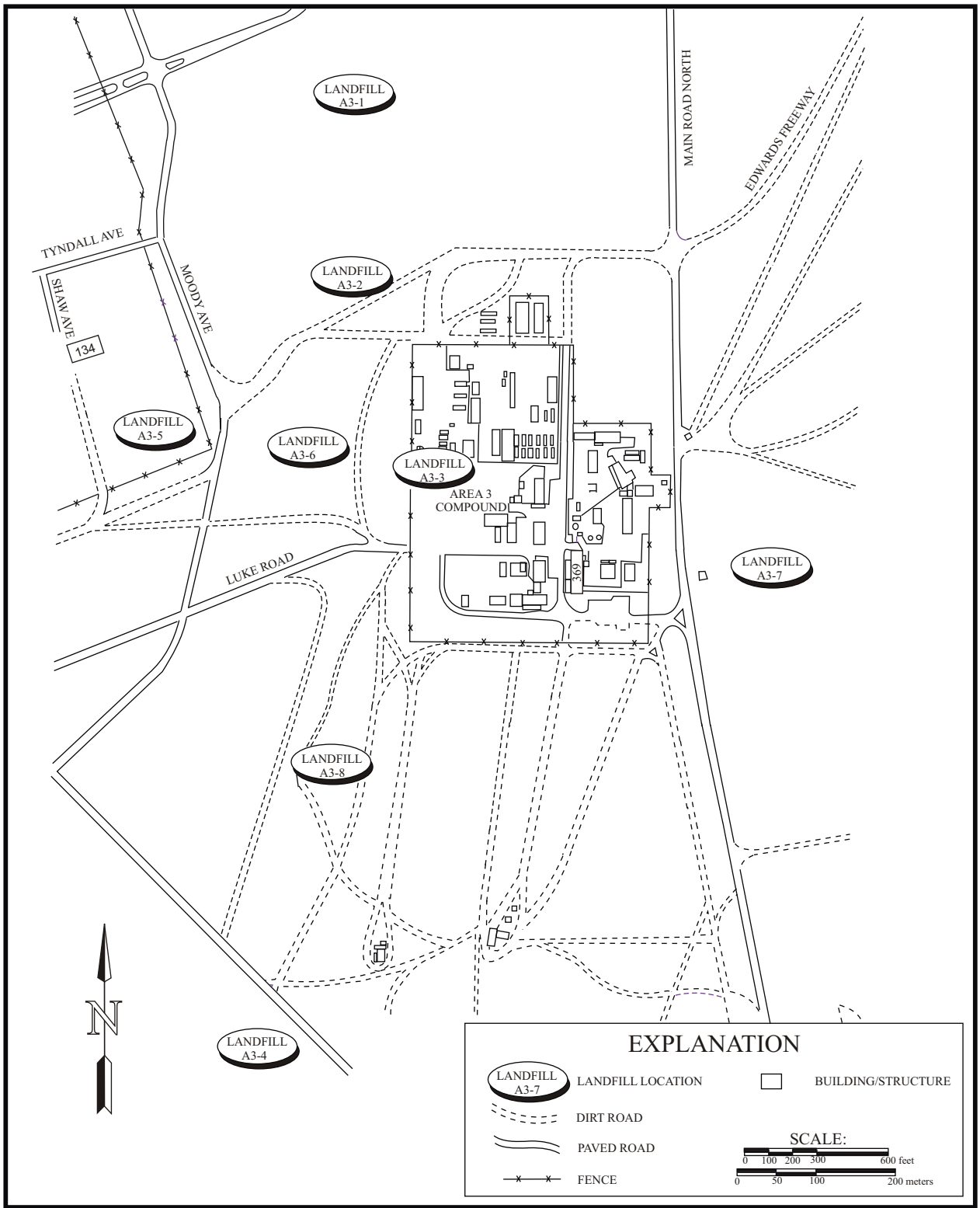

FIGURE 7
CAU 424 AREA 3 LANDFILL COMPLEXES LOCATION MAP

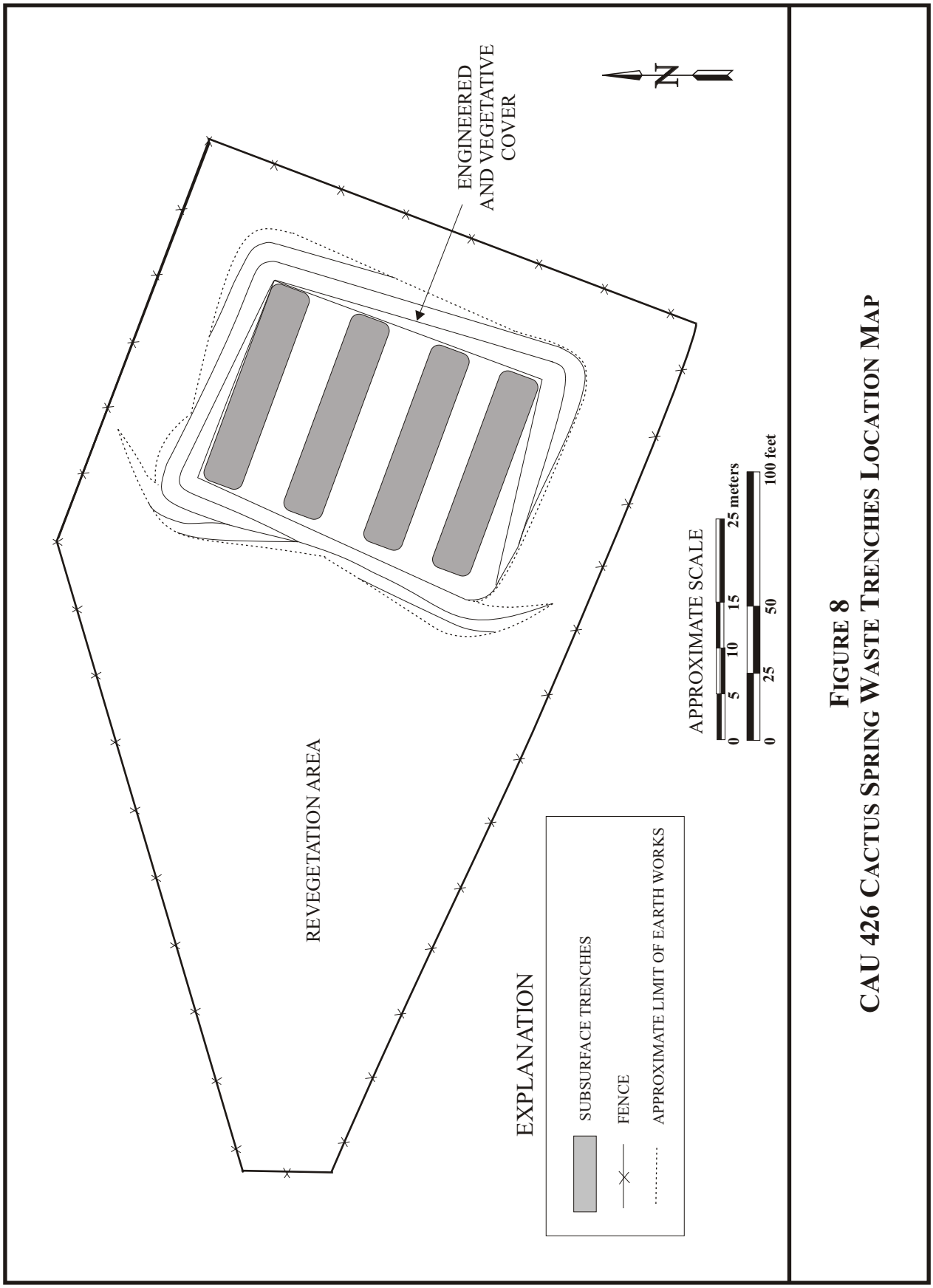

FIGURE 8
CAU 426 CACTUS SPRING WASTE TRENCHES LOCATION MAP

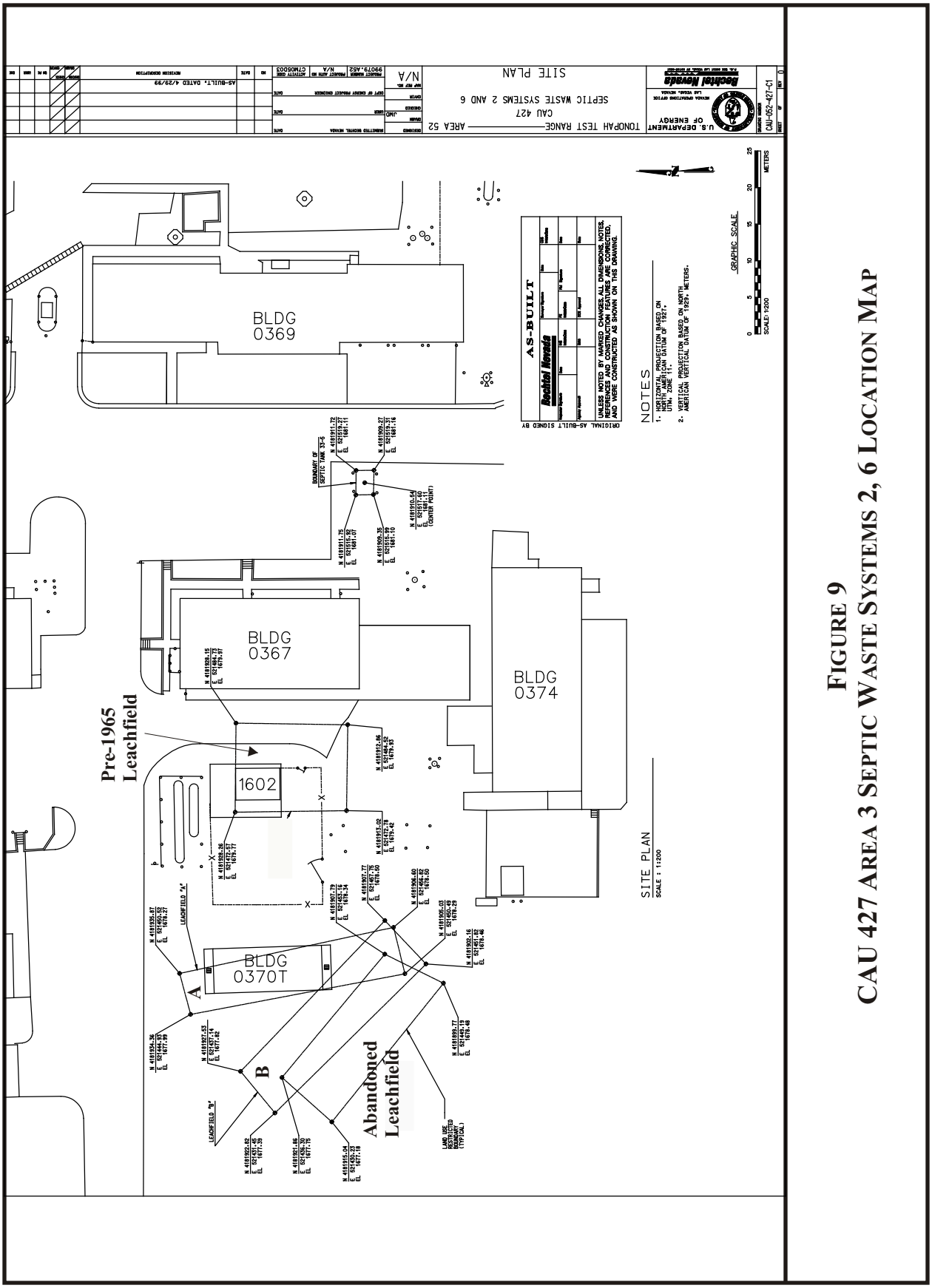

FIGURE 9
CAU 427 AREA 3 SEPTIC WASTE SYSTEMS 2, 6 LOCATION MAP

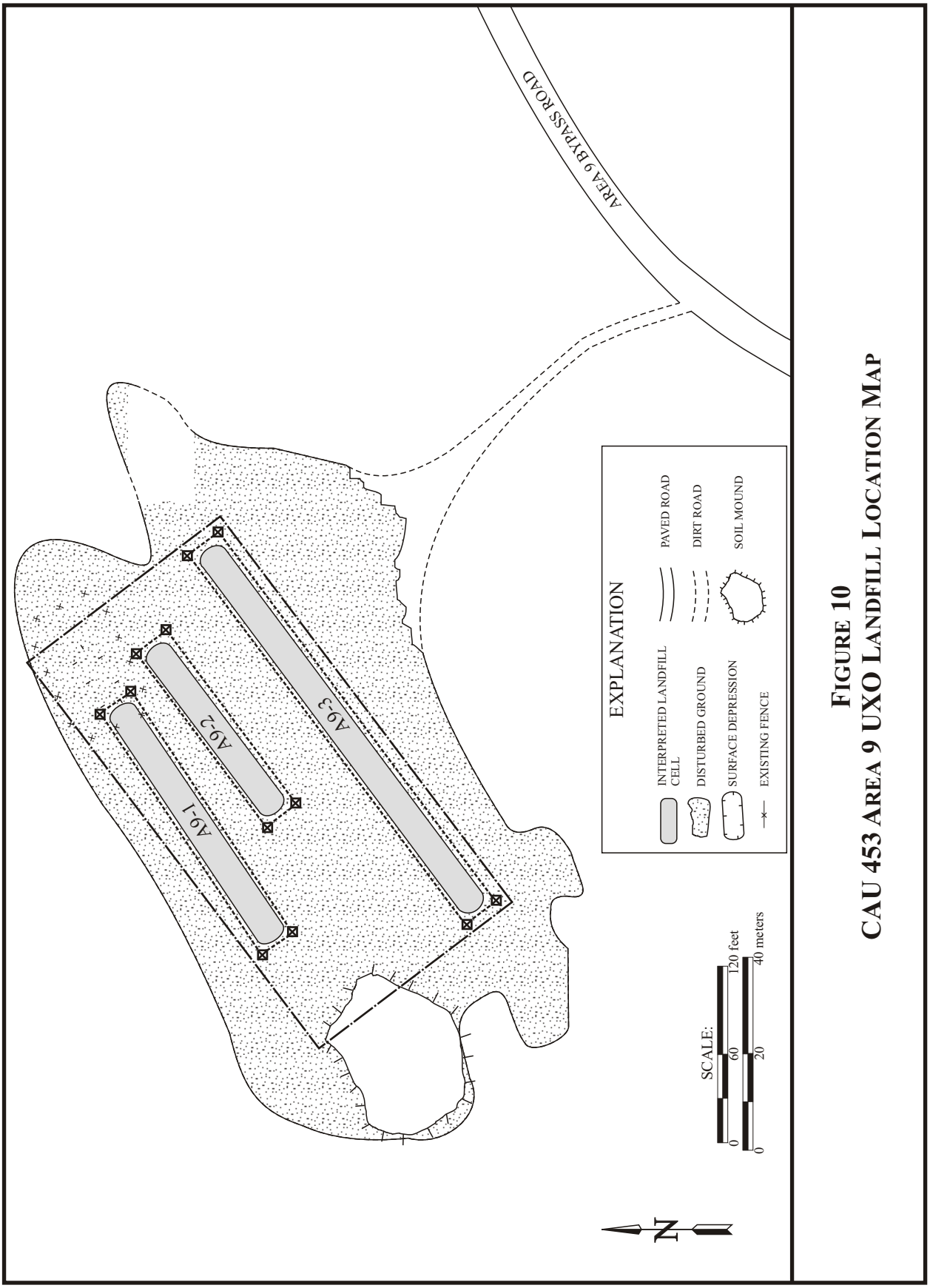

FIGURE 10
CAU 453 AREA 9 UXO LANDFILL LOCATION MAP

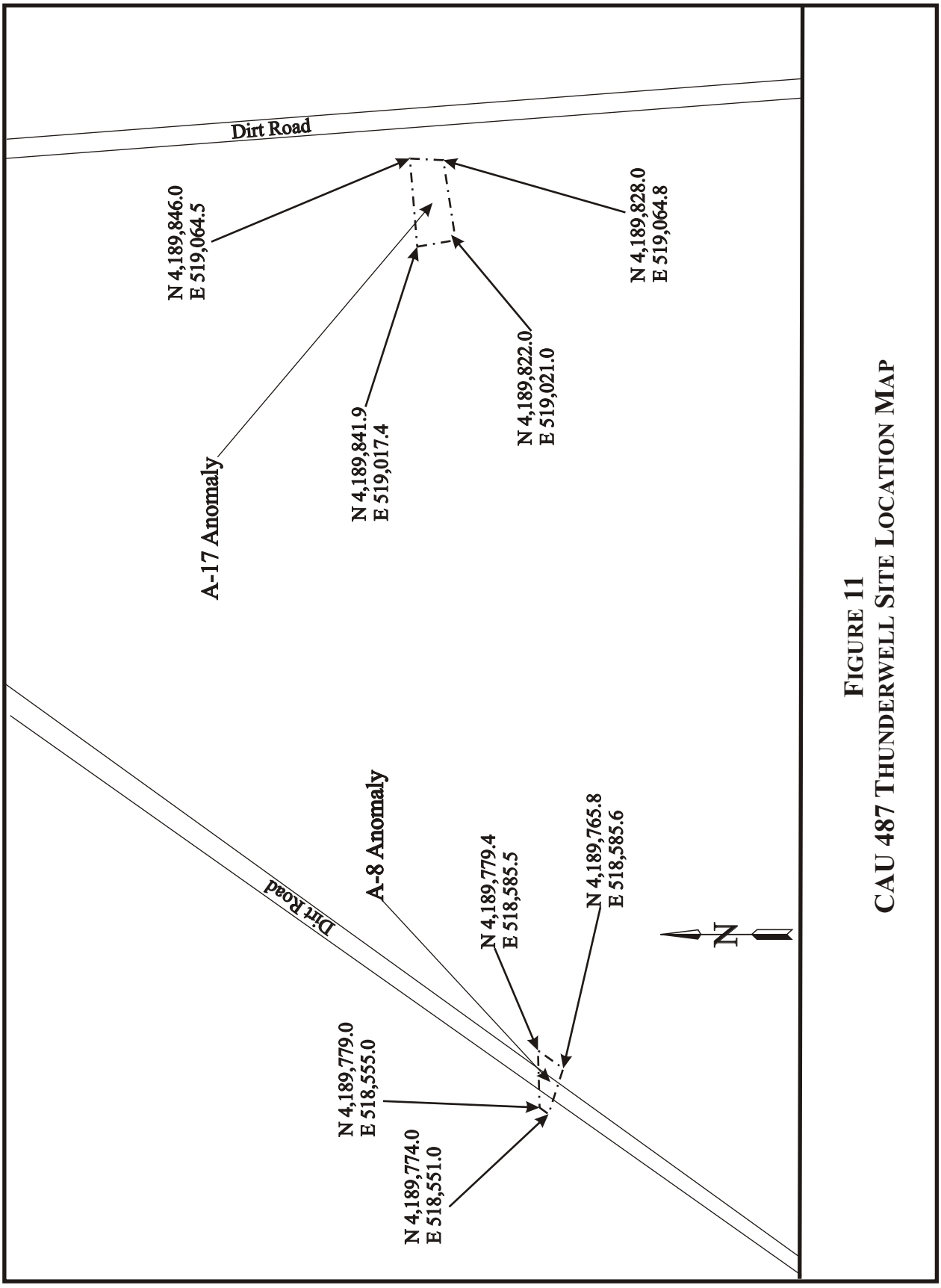

FIGURE 11
CAU 487 THUNDERWELL SITE LOCATION MAP

ATTACHMENT B.
POST-CLOSURE INSPECTION PLANS

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CORRECTIVE ACTION UNIT (CAU) 404: ROLLER COASTER LAGOONS AND TRENCH POST-CLOSURE INSPECTION PLAN

The following text appeared in the published and approved CAU 404 CR, Closure Report for Corrective Action Unit 404: Roller Coaster Sewage Lagoons and North Disposal Trench, Tonopah Test Range, Nevada, Revision 0, September 1998, DOE/NV-11718-187 UC-702. Las Vegas, Nevada

Post-Closure monitoring of the covers is intended to determine:

- If maintenance repairs to the perimeter fence are required.
- If remedial action is necessary to establish a vegetative cover.
- If maintenance and repairs to the engineered cover is required.
- When a cessation to post-closure monitoring can be proposed.

POST-CLOSURE MONITORING

The monitoring will consist of biannual (twice per year) visual inspections of:

- The cover for condition (subsidence, significant erosion, unauthorized excavation, etc.) and plant development.
- The fence and signs to determine if repairs are required.

Additional, nonscheduled inspections may be required after severe weather events such as heavy rainfall, flash flooding, and high winds. Any identified maintenance and repair requirements will be remediated within 90 days of discovery and documented in writing at the time of repair. Additional revegetation work would be conducted during the next revegetation window (October to February).

Intrusion into or sampling of the impacted materials in the East or West Sewage Lagoon is not proposed during the post-closure monitoring period.

Monitoring of the vegetative cover will be conducted during the first, third, and fifth year after revegetation. Monitoring during the first year will determine if germination of seeded plant species has occurred. By the third year, plant establishment will be evaluated. By the fifth year, the objective of determining if burrowing animals have moved onto the site and to what depth they might be expected to penetrate the cover. The erosion condition of the soil will be evaluated using a qualitative erosion condition classification developed by the Bureau of Land Management. Information gathered will be compared to natural conditions and will be used in assessing whether or not remedial action is necessary so that a viable vegetative cover is established.

ANNUAL REPORTING

An annual report will be prepared that will provide the observations and describe modifications and/or repairs made to the cover and cover area. The annual report will be prepared following

the second inspection of each year that post-closure monitoring is conducted. The annual reports will include the following information:

- Discussion of observations
- Inspection checklist and maintenance record
- Conclusions and recommendations

A copy of each annual report will be submitted to the NDEP.

DURATION

The biannual inspections will be performed for five years after the planting of the vegetative covers, and will be documented on inspection forms.

Completion of post-closure monitoring of CAU 404 may be proposed after two consecutive years of visual inspections have not indicated the need to revegetate or provide maintenance to the vegetative covers. Completion of post-closure monitoring may be proposed within five years after the original revegetation of the site and include the removal of the fence since the plants will have attained a maturity to not be significantly affected by the grazing of wild horses.

CAU 407: ROLLER COASTER RADSAFE POST-CLOSURE INSPECTION PLAN

The following text appeared in the published and approved CAU 407 CR, Closure Report for Corrective Action Unit 407: Roller Coaster RADSAFE Area, Tonopah Test Range, Nevada, Revision 1, December 2001, DOE/NV--694-Rev 1. Las Vegas, Nevada

INSPECTIONS

Inspections consist of visually inspecting the cover for signs of erosion, animal burrows, cracks, water ponding, vegetation, and inspecting the fencing and postings. Inspections will be performed twice during the first six months after construction of the cover has been completed. After completion of the quarterly inspections, the cover systems will be inspected and monitored semiannually (twice per year) for the next two years. The frequency after the second year will be determined by NDEP, based on the results of the previous inspections. Any identified maintenance and repair requirements will be remedied within 90 working days of discovery and documented in writing at the time of repair.

Results of all inspections in a given year will be addressed in a single annual report. The annual report will include the following information:

- Discussion of observations.
- Inspection checklist and maintenance record.
- Conclusions and recommendations.

A copy of each annual report will be submitted to the NDEP. A copy of the inspection checklist is provided in Attachment B.

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CAU 423: AREA 3 BUILDING 0360 UNDERGROUND DISCHARGE POINT POST-CLOSURE INSPECTION PLAN

The following text appeared in the approved and published Record of Technical Change Number CR-1 to the CAU 423 CR, Closure Report for Corrective Action Unit 423: Area 3 Building 03-60 Underground Discharge Point, Tonopah Test Range, Nevada, Revision 0, July 1999, DOE/NV/11718--319. Las Vegas, Nevada

Post-closure monitoring at CAU 423 will consist of biannual inspections (twice per year) to verify that the warning sign and concrete marker are in good condition and that the Use Restriction has been maintained. Any identified maintenance or repair requirements will be remedied within 90 working days of discovery and documented in writing at the time of repair. Results of all inspections in a given year will be addressed in a single annual report. The annual report will include the following information:

- Discussion of observations
- Inspection checklist and maintenance record
- Conclusions and recommendations

A copy of each annual report will be submitted to the NDEP.

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CAU 424: AREA 3 LANDFILL COMPLEXES POST-CLOSURE INSPECTION PLAN

The following text appeared in the published and approved CAU 424 CR, Closure Report for Corrective Action Unit 424: Area 3 Landfill Complexes, Tonopah Test Range, Nevada, Revision 0, July 1999, DOE/NV/11718--283. Las Vegas, Nevada

Post-closure inspection of the Area 3 Landfill sites is intended to determine:

- If maintenance repairs to the landfill soil covers are needed.
- If maintenance and repairs to the landfill markers and warning signs are needed.
- If modifications to the Use Restriction administrative controls are needed.
- If termination of post-closure inspection can be proposed in the future.

POST-CLOSURE INSPECTION

The inspection will consist of biannual (twice per year) visual inspections of:

- The soil cover for indications of subsidence, erosion, unauthorized use, etc.
- The landfill markers and warning signs, to verify they are in-place, intact, and readable.
- The inspections will be documented on a checklist and with photography, if needed.

If damage to the soil covers, landfill markers, or warning signs is noted, then maintenance will be performed and may include placement and compaction of additional backfill, and repair or replacement of markers and signs. Additional nonscheduled inspections may be required after severe weather events such as heavy rainfall, flash flooding, and high winds. Any identified maintenance and repair requirements will be remedied within 90 days of discovery and documented in writing at the time of repair.

ANNUAL REPORTING

An annual report will be prepared that will provide the observations and describe modifications and/or repairs made to the cover and cover area. The annual post-closure inspection report will be prepared and submitted to NDEP following the second inspection of each year that post-closure inspection is conducted. The annual reports will include the following information:

- Discussion of observations.
- Inspection checklist and maintenance record.
- Conclusions and recommendations.

DURATION

The biannual inspections will be performed for five years after the completion of closure activities, and will be documented on inspection forms.

Completion of post-closure inspection of CAU 424 may be proposed by DOE/NV to the NDEP after two consecutive years of visual inspections have not indicated recurrence of subsidence. Completion of post-closure monitoring may be proposed by DOE/NV to the NDEP within five years after the completion of closure activities.

CAU 426: CACTUS SPRING WASTE TRENCHES POST-CLOSURE INSPECTION PLAN

The following text appeared in the published and approved CAU 426 CR, Closure Report for Corrective Action Unit 426: Cactus Spring Waste Trenches, Tonopah Test Range, Nevada, Revision 0, August 1998, DOE/NV/11718-226 UC-702. Las Vegas, Nevada

Post-Closure of the covers is intended to determine:

- If maintenance repairs to the perimeter fence are required.
- If remedial action is necessary to establish a vegetative cover.
- If maintenance and repairs to the engineered cover is required.
- When a cessation to post-closure monitoring can be proposed.

POST-CLOSURE MONITORING

The monitoring will consist of biannual (twice per year) visual inspections of:

- The cover for condition (subsidence, significant erosion, unauthorized excavation, etc.) and plant development.
- The fence and signs to determine if repairs are required.

Additional, nonscheduled inspections may be required after severe weather events such as heavy rainfall, flash flooding, and high winds. Any identified maintenance and repair requirements will be remediated within 90 days of discovery and documented in writing at the time of repair. Additional revegetation work would be conducted during the next revegetation window (October to February).

Intrusion into or sampling of the trench contents is not proposed during the post-closure monitoring period.

Monitoring of the vegetative cover will be conducted during the first, third, and fifth year after revegetation. Monitoring during the first year will determine if germination of seeded plant species has occurred. By the third year, plant establishment will be evaluated. By the fifth year, the objective of determining if burrowing animals have moved onto the site and to what depth they might be expected to penetrate the cover. The erosion condition of the soil will be evaluated using a qualitative erosion condition classification developed by the Bureau of Land Management. Information gathered will be compared to natural conditions and will be used in assessing whether or not remedial action is necessary so that a viable vegetative cover is established.

ANNUAL REPORTING

An annual report will be prepared that will provide the observations and describe modifications and/or repairs made to the cover and cover area. The annual report will be prepared following

the second inspection of each year that post-closure monitoring is conducted. The annual reports will include the following information:

- Discussion of observations.
- Inspection checklist and maintenance record.
- Conclusions and recommendations.

A copy of each annual report will be submitted to the NDEP.

DURATION

The biannual inspections will be performed for five years after the planting of the vegetative covers, and will be documented on inspection forms.

Completion of post-closure monitoring of CAU 426 may be proposed after two consecutive years of visual inspections have not indicated the need to revegetate or provide maintenance to the vegetative covers. Completion of post-closure monitoring may be proposed within five years after the original revegetation of the site and include the removal of the fence since the plants will have attained a maturity to not be significantly affected by the grazing of wild horses.

CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2, 6 POST-CLOSURE INSPECTION PLAN

The following text appeared in the published and approved CAU 427 CR, Closure Report for Corrective Action Unit 427 Area 3 Septic Waste Systems 2 and 6, Tonopah Test Range, Nevada, Revision 0, August 1999, DOE/NV--561. Las Vegas, Nevada

Post-Closure inspection of CAU 427 use restricted land is intended to determine:

- If maintenance and repairs to the closed leachfield or septic tank soil and asphalt covers are needed.
- If maintenance and repairs to the closed leachfield and septic tank markers and warning signs are needed.
- If modifications to the Use Restriction administrative controls are needed.
- If termination of post-closure inspection can be proposed in the future.

POST-CLOSURE INSPECTION

The inspection will consist of annual (once per year) visual inspections of:

- The soil and asphalt cover for indications of subsidence, erosion, unauthorized use, etc.
- The leachfield and septic tank markers and warning signs to verify they are in-place, intact, and readable
- The inspections will be documented on a checklist (Attachment C) and, if needed, with photography

Repairs to the soil covers (placement and compaction of additional backfill), landfill markers, and warning signs (repair, reposition, and/or replacement) may be required.

Inspections are not required after severe weather events such as heavy rainfall, flash floods, and high winds, because the leachfield waste is buried in the subsurface. However, any identified maintenance and repair requirements noted before or after a inspection will be remedied within 90 days of discovery and documented in writing at the time of repair.

ANNUAL REPORTING

An annual report will provide the inspector's observations of CAU 427s land-use-restricted areas and describe modifications and/or repairs made to Leachfield A, Leachfield B, Pre-1965 Leachfield, 1965-1975 Leachfield, and/or Septic Tank 33-5. The annual post-closure inspection report will be prepared and submitted to NDEP before the completion of the fiscal year in which the inspection was conducted. The annual reports will include the following information:

- Discussion of observations.
- Inspection checklist and maintenance record.
- Conclusions and recommendations.

DURATION

The biannual inspections will be performed for five years after the completion of closure activities, and will be documented on inspection forms.

Completion of post-closure monitoring of CAU 427 may be proposed by the DOE/NV to the NDEP if after two consecutive years of visual inspections, indications of subsidence depression recurrences have not been detected. Completion of post-closure inspection may be proposed by DOE/NV to the NDEP within five years after the completion of closure activities.

CAU 453: AREA 9 UXO LANDFILL INSPECTION PLAN

The following text appeared in the published and approved CAU 453 CR, Closure Report for Corrective Action Unit 453: Area 9 UXO-Landfill, Tonopah Test Range, Nevada, Revision 0, July 1999, DOE/NV/11718--284. Las Vegas, Nevada

Post-Closure of the covers is intended to determine:

- If maintenance and repairs to the cell soil covers are needed.
- If maintenance and repairs to the perimeter fence, warning signs, and monuments are needed.
- If modifications to the administrative Use Restrictions are needed.
- If termination of post-closure inspection can be proposed in the future.

POST-CLOSURE INSPECTION

The inspection will consist of biannual (once per year) visual inspections of:

- The cell soil cover, for indications of subsidence, erosion, unauthorized use, etc.
- The perimeter fence, warning signs, and monuments, for signs of wear disturbance, etc.

The inspections will be documented on a checklist and with photography, if needed. Repairs to the cell soil covers (placement and compaction of additional fill), perimeter fence, warning signs, and monuments (repair, reposition, and/or replacement) may be required. Additional, nonscheduled inspections may be required after severe weather events such as heavy rainfall, flash flooding, and high winds. Any identified maintenance and repair requirements will be remediated within 90 days of discovery and documented in writing at the time of repair.

ANNUAL REPORTING

An annual post-closure inspection report will be prepared that will provide the observations and describe modifications and/or repairs made to the cover and cover area. The annual report will be prepared and submitted to NDEP following the second inspection of each year that post-closure inspection is conducted. The annual reports will include the following information:

- Discussion of observations.
- Inspection checklist and maintenance record.
- Conclusions and recommendations.

DURATION

The biannual inspections will be performed for five years after the completion of closure activities, and will be documented on inspection forms.
Completion of post-closure inspection of CAU 453 may be proposed by DOE/NV to NDEP within five years after the completion of closure activities. Completion of post-closure

inspection may also be proposed by DOE/NV to NDEP if two consecutive years of visual inspections do not indicate the recurrence of subsidence depressions.

CAU 487: THUNDERWELL SITE, POST-CLOSURE INSPECTION PLAN

The following text appeared in the published and approved Record of Technical Change Number 2 for the final Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada, Revision 0, November 2001, DOE/NV--761. Las Vegas, Nevada

The post-closure inspection of CAS RG-26-001-RGRV will consist of semi-annual (twice per year) visual inspections of the monument markers and postings to verify that they are in-place, intact, and readable. Visual inspections of the monuments and signage, and indications of ground disturbance within the Use Restriction area will be conducted. Observations and any modifications and/or repairs to the monuments or postings will be included in the annual Post-Closure Inspection Report for the Tonopah Test Range, Nevada.

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ATTACHMENT C.
POST-CLOSURE INSPECTION CHECKLISTS

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CAU 400: 5 POINTS LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 01 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 10 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?			N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 400: 5 POINTS LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Some small animal burrows
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?		X	
c. Is organic mulch and/or plants adequate to prevent erosion?	X		
d. Are weedy annual plants present? If yes, are they a problem?	X		
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made: N/A			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: Site is in generally good condition. Previously completed repairs look good.

E. CERTIFICATION

I have conducted an inspection of the 5 Points Landfill, CAU 400, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 01 June 2005

CAU 400: BOMBLET PIT, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 01 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 10 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?			N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	All fencing is in good condition
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 400: BOMBLET PIT, POST-CLOSURE INSPECTION CHECKLIST

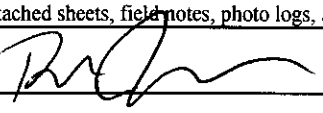
3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horses outside of fence and some rabbit/small animal burrows within site, none significant.
c. Is organic mulch and/or plants adequate to prevent erosion?		X	
d. Are weedy annual plants present? If yes, are they a problem?	X		Some present, NNSA concurs not a problem
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			

D. FIELD CONCLUSIONS	YES	NO	EXPLANATION
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?		X	

6. Rationale for field conclusions: The site is in good condition and no maintenance/repairs are needed. Inspections are not required at this site but are completed as a best management practice under NNSA direction. As soon as vegetation is well established at the site, removal of the fence will be proposed to NNSA/NDEP per the closure report.

E. CERTIFICATION

I have conducted an inspection of the Bomblet Pit, CAU 400, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manger	Date: 01 June 2005

CAU 404: ROLLER COASTER LAGOONS & N. DISPOSAL TRENCH, POST-CLOSURE MONITORING CHECKLIST

Inspection Date: 01 June 2005

Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 09 November 2004	Reason for Last Inspection: Semiannual inspection

Inspector (name, title, organization): Brad Jackson BNER

Assistant Inspector (name, title, organization): N/A

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 404: ROLLER COASTER LAGOONS & N. DISPOSAL TRENCH, POST-CLOSURE MONITORING CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Minor, no damage or repairs needed
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horse activity outside fence and some rabbit/small animal burrows along and within fence. No repairs needed.
c. Is organic mulch adequate to prevent erosion?		X	
d. Are weedy annual plants present? If yes, are they a problem?	X		Minor, NNSA concurs not a problem
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: The site is in good condition and there was no damage to the fencing or cover noted during the inspection. Some small animal burrows were noted during the inspection but no maintenance/repairs are needed.

E. CERTIFICATION

I have conducted an inspection of the Roller Coaster Sewage Lagoons & North Disposal Trench, CAU 404, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 01 June 2005

CAU 407: ROLLER COASTER RADSAFE AREA, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 01 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 09 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

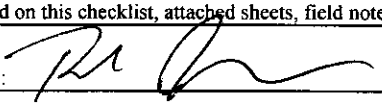
B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 407: ROLLER COASTER RADSAFE AREA, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Do natural processes threaten to integrity of any cover or site marker?		X	
f. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horses outside of fence and rabbits/small animal burrows within fence
c. Is organic mulch adequate to prevent erosion?		X	
d. Are weedy annual plants present? If yes, are they a problem?	X		Some present, NNSA concurs not a problem
e. Are seeded plant species found on site?	X		Newly planted
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (8)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?		X	
6. Rationale for field conclusions: The site is in generally good condition. Maintenance to reestablish vegetation on the cover and repair some minor erosion has been completed and new vegetation is present throughout the cover.			

E. CERTIFICATION

I have conducted an inspection of the Roller Coaster RadSafe Area, CAU 407, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manger	Date: 01 June 2005

CAU 423: AREA 3 UNDERGROUND DISCHARGE POINT, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 02 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 09 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

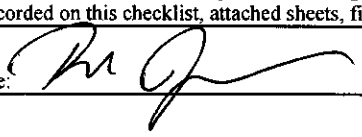
B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.		X	N/A
a. Has site repair resulted in a change from as-built conditions?		X	N/A
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?	X		Water line installation is in process in the area, the site is not disturbed
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?	X		Water line installation is in process in the area, the site is not disturbed
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	

CAU 423: AREA 3 UNDERGROUND DISCHARGE POINT, POST-CLOSURE INSPECTION CHECKLIST

3. Use Restricted Area:	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Have the site markers been disturbed by man or natural processes?		X	
f. Is there vegetation in the area?		X	
g. Do natural processes threaten to integrity of any cover or site marker?		X	
h. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (2)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of the site satisfactory?	X		
6. Rationale for field conclusions: Site is in good condition. NNSA requested a proposal to remove the piping running to the UDP.			

E. CERTIFICATION

I have conducted an inspection of the Area 3 Underground Discharge Point, CAU 423, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 02 June 2005

CAU 424: AREA 3 LANDFILL COMPLEX, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 01 June 2005

Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 09 November 2004	Reason for Last Inspection: Semiannual inspection

Inspector (name, title, organization): Brad Jackson BNER

Assistant Inspector (name, title, organization): N/A

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	N/A

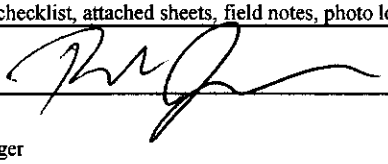
CAU 424: AREA 3 LANDFILL COMPLEX, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Minor burrowing by small animals
e. Have the site markers been disturbed by man or natural processes?		X	
f. Is the vegetation on the cover?	X		
g. Do natural processes threaten to integrity of any cover or site marker?		X	
h. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (21)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: The site is in good condition and there was no damage to the fencing or cover noted during the inspection. Some small animal burrows were noted during the inspection. Previously completed repairs are in good condition.

E. CERTIFICATION

I have conducted an inspection of the Area 3 Landfill Complex, CAU 424, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 01 June 2005

CAU 426: CACTUS SPRING WASTE TRENCHES, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 02 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 09 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	N/A

CAU 426: CACTUS SPRING WASTE TRENCHES, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Small burrows around the fence and margin of cover, no maintenance needed.
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horses along fencing and rabbits/small animal burrows along and within fencing.
c. Is organic mulch and/or plants adequate to prevent erosion?	X		
d. Are weedy annual plants present? If yes, are they a problem?	X		Some are present but no maintenance needed.
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?		X	

6. Rationale for field conclusions: The site is in good condition and there was no damage to the fencing or cover noted during the inspection. Some small animal burrows were noted during the inspection but no maintenance/repairs are needed.

E. CERTIFICATION

I have conducted an inspection of the Cactus Spring Waste Trenches, CAU 426, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 02 June 2005

CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2 & 6, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 02 June 2005

Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 09 November 2004	Reason for Last Inspection: Semiannual inspection

Inspector (name, title, organization): Brad Jackson BNER

Assistant Inspector (name, title, organization): N/A

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
2. Security signs.			
a. Displacement of site markers, boundary markers, or monuments? (disturbed by man or natural processes?)		X	Some red rock covering the leachfield markers has been covered. The locations were found and red rock was added to aid in future inspections.
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were all subsurface markers detected? (i.e., using a magnetometer or equivalent)	X		Markers have been located using a magnetometer/excavation. Red rock was used to backfill each location to aid in finding markers during site inspections.

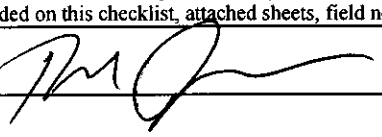
CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2 & 6, POST-CLOSURE INSPECTION CHECKLIST

3. Soil/asphalt cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion near use restriction boundaries?		X	
d. Is there evidence of animal burrowing?		X	
e. Is there vegetation?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Is there evidence suggesting unauthorized excavations have taken place?		X	
e. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (14)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	

5. Rationale for field conclusions: The site is in good condition and no maintenance/repairs are needed. Two marker locations were obscured by fill material but were uncovered and repaired at the time of the inspection.

E. CERTIFICATION

I have conducted an inspection of the Area 3 Septic Waste Systems 2 & 6, CAU 427, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 02 June 2005

CAU 453: AREA 9 UXO LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 02 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 10 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?	X		New lock placed by ASI

CAU 453: AREA 9 UXO LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		
e. Have the site markers been disturbed by man or natural processes?		X	
f. Is vegetation present?	X		Sparse
g. Do natural processes threaten to integrity of any cover or site marker?		X	
h. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: The site conducted an inspection and there was no damage to the fencing or cover noted during the inspection. Some small animal burrows were noted during the inspection but no maintenance/repairs are needed.

E. CERTIFICATION

I have conducted an inspection of the Area 9 UXO Landfill, CAU 453, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 02 June 2005

CAU 487: THUNDERWELL SITE, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 02 June 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 10 November 2004	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
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3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	

CAU 487: THUNDERWELL SITE, POST-CLOSURE INSPECTION CHECKLIST

	YES	NO	EXPLANATION
3. Waste Unit cover.			
a. Is there evidence of settling?		X	
b. Is there evidence of animal burrowing?	X		Minor
c. Have the site markers been disturbed by man or natural processes?		X	
d. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (6)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: The site is in good condition; however several monuments have been pushed over by horses. Westinghouse has been contacted and the monuments will be reset within 90 days. A follow up inspection will be completed after the repairs are complete.

E. CERTIFICATION

I have conducted an inspection of the Area 9 UXO Landfill, CAU 453, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 02 June 2005

CAU 400: 5 POINTS LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 15 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 1 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
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3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?			N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 400: 5 POINTS LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

	YES	NO	EXPLANATION
3. Waste Unit cover.			
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Some small animal burrows
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?		X	
c. Is organic mulch and/or plants adequate to prevent erosion?	X		
d. Are weedy annual plants present? If yes, are they a problem?	X		NNSA mentioned an excessive amount of cheat grass was present. BN biologist will evaluate. Does not require immediate attention.
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made: N/A			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: Site is in generally good condition. NNSA indicated that vegetation was dominated by cheat grass. Photos will be provided to the BN biologist for evaluation. No immediate action is required.

E. CERTIFICATION

I have conducted an inspection of the 5 Points Landfill, CAU 400, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 15 November 2005

CAU 400: BOMBLET PIT, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 15 November 2005

Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 01 June 2005	Reason for Last Inspection: Semiannual inspection

Inspector (name, title, organization): Brad Jackson BNER

Assistant Inspector (name, title, organization): N/A

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?			N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	All fencing is in good condition
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 400: BOMBLET PIT, POST-CLOSURE INSPECTION CHECKLIST

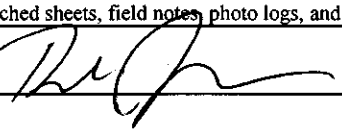
3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horses outside of fence and some rabbit/small animal burrows within site, none significant.
c. Is organic mulch and/or plants adequate to prevent erosion?		X	
d. Are weedy annual plants present? If yes, are they a problem?	X		Some present, NNSA concurs not a problem
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			

D. FIELD CONCLUSIONS	YES	NO	EXPLANATION
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?		X	

6. Rationale for field conclusions: The site is in good condition and no maintenance/repairs are needed. Inspections are not required at this site but are completed as a best management practice under NNSA approval.

E. CERTIFICATION

I have conducted an inspection of the Bomblet Pit, CAU 400, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manger	Date: 15 November 2005

CAU 404: ROLLER COASTER LAGOONS & N. DISPOSAL TRENCH, POST-CLOSURE MONITORING CHECKLIST

Inspection Date: 15 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 01 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 404: ROLLER COASTER LAGOONS & N. DISPOSAL TRENCH, POST-CLOSURE MONITORING CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Minor, no damage or repairs needed
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horse activity outside fence and some rabbit/small animal burrows along and within fence. No repairs needed.
c. Is organic mulch adequate to prevent erosion?		X	
d. Are weedy annual plants present? If yes, are they a problem?	X		Minor, NNSA concurs not a problem
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: The site is in good condition and there was no damage to the fencing or cover noted during the inspection. Some small animal burrows were noted during the inspection but no maintenance/repairs are needed.

E. CERTIFICATION

I have conducted an inspection of the Roller Coaster Sewage Lagoons & North Disposal Trench, CAU 404, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 15 November 2005

CAU 407: ROLLER COASTER RADSAFE AREA, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 15 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 01 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
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3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?	X		A ~100 foot strand of barbed wire was damaged and a radiological posting sign was partially unattached. The wire was reattached as best as possible and the sign was set upright. Tightening/resetting of the wire and sign will be completed during upcoming repairs. NNSA questioned why no use restriction signs are present. A reply is due to NNSA within 90 days.
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	Not required

CAU 407: ROLLER COASTER RADSAFE AREA, POST-CLOSURE INSPECTION CHECKLIST

	YES	NO	EXPLANATION
3. Waste Unit cover.			
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Do natural processes threaten to integrity of any cover or site marker?		X	
f. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horses outside of fence and rabbits/small animal burrows within fence
c. Is organic mulch adequate to prevent erosion?		X	
d. Are weedy annual plants present? If yes, are they a problem?	X		NNSA noted an excessive amount of cheat grass on the cover. Photos will be provided to the BN biologist for evaluation. NNSA concurred this does not require immediate attention.
e. Are seeded plant species found on site?		X	
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (8)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?		X	

6. Rationale for field conclusions: The site is generally in good condition. No erosion or damage was noted other than a section of wire down on the fence near the gate. Minor repairs were made at the time of the inspection. The wire and sign will be more securely attached at the same time repairs are made at other PCI sites. In addition to the repairs, a response is due to NNSA within 90 days on why no use restriction signs are present at the site. If possible, the NNSA TM requested UR signs to be installed per the FFACO handbook. A follow up inspection will be completed at the completion of repair activities and observations will be documented.

E. CERTIFICATION

I have conducted an inspection of the Roller Coaster RadSafe Area, CAU 407, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manger	Date: 15 November 2005

CAU 423: AREA 3 UNDERGROUND DISCHARGE POINT, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 15 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 02 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
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3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.		X	N/A
a. Has site repair resulted in a change from as-built conditions?		X	N/A
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?	X		Underground water line installation is ongoing in the area. The site was not disturbed as of this inspection.
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?	X		Underground water line installation is ongoing in the area. The site was not disturbed as of this inspection.
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	

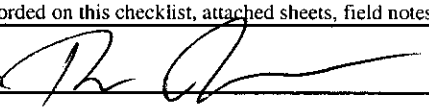
CAU 423: AREA 3 UNDERGROUND DISCHARGE POINT, POST-CLOSURE INSPECTION CHECKLIST

3. Use Restricted Area:	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Have the site markers been disturbed by man or natural processes?		X	
f. Is there vegetation in the area?		X	
g. Do natural processes threaten to integrity of any cover or site marker?		X	
h. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (2)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		None required
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of the site satisfactory?	X		

6. Rationale for field conclusions: Site is in good condition and all excavations were will away from the use restricted area. Discussed upcoming fieldwork to remove piping with NNSA and BN personnel.

E. CERTIFICATION

I have conducted an inspection of the Area 3 Underground Discharge Point, CAU 423, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 15 November 2005

CAU 424: AREA 3 LANDFILL COMPLEX, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 15 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 01 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
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3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

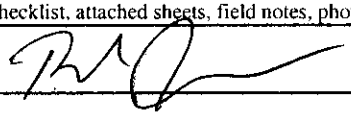
B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A
C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	N/A
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	N/A
c. Were gates locked?		X	N/A, no fences present

CAU 424: AREA 3 LANDFILL COMPLEX, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Minor burrowing by small animals
e. Have the site markers been disturbed by man or natural processes?		X	
f. Is the vegetation on the cover?	X		
g. Do natural processes threaten to integrity of any cover or site marker?		X	
h. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (21)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		
6. Rationale for field conclusions: The site is in good condition. Some small animal burrows were noted during the inspection.			

E. CERTIFICATION

I have conducted an inspection of the Area 3 Landfill Complex, CAU 424, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 15 November 2005

CAU 426: CACTUS SPRING WASTE TRENCHES, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 15 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 02 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
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5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 6)		X	
c. Were gates locked?		X	N/A

CAU 426: CACTUS SPRING WASTE TRENCHES, POST-CLOSURE INSPECTION CHECKLIST

	YES	NO	EXPLANATION
3. Waste Unit cover.			
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?	X		Small burrows around the fence and margin of cover, no maintenance needed
e. Have the site markers been disturbed by man or natural processes?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Other?		X	
4. Vegetative cover.			
a. Is perimeter fence or mesh fencing damaged?		X	
b. Is there evidence of horses or rabbits on site?	X		Horses along fencing and rabbits/small animal burrows along and within fencing.
c. Is organic mulch and/or plants adequate to prevent erosion?	X		
d. Are weedy annual plants present? If yes, are they a problem?	X		Some are present but no maintenance needed.
e. Are seeded plant species found on site?	X		
f. Is there evidence of plant mortality?		X	
5. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?		X	

6. Rationale for field conclusions: The site is in good condition and there was no damage to the fencing or cover noted during the inspection. Some small animal burrows were noted during the inspection but no maintenance/repairs are needed.

E. CERTIFICATION

I have conducted an inspection of the Cactus Spring Waste Trenches, CAU 426, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 15 November 2005

CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2 & 6, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 16 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 02 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
2. Security signs.			
a. Displacement of site markers, boundary markers, or monuments? (disturbed by man or natural processes?)		X	The site was closely inspected and corner marker locations measured to ensure near by water line excavation had not encroached on the UR. At the time of the inspection, the excavation had not violated the UR. NNSA requested that at-grade monuments be installed for better marking of the leachfields.
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were all subsurface markers detected? (i.e., using a magnetometer or equivalent)	X		

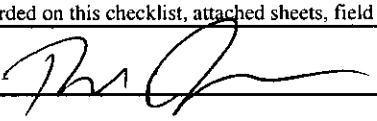
CAU 427: AREA 3 SEPTIC WASTE SYSTEMS 2 & 6, POST-CLOSURE INSPECTION CHECKLIST

3. Soil/asphalt cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there cracking?		X	
c. Is there evidence of erosion near use restriction boundaries?		X	
d. Is there evidence of animal burrowing?		X	
e. Is there vegetation?		X	
f. Do natural processes threaten to integrity of any cover or site marker?		X	
g. Is there evidence suggesting unauthorized excavations have taken place?		X	
e. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (14)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	

5. Rationale for field conclusions: The site was closely inspected and corner marker locations measured to ensure near by water line excavation had not encroached on the UR. At the time of the inspection, the excavation had not violated the UR.
NNSA requested that at-grade monuments be installed for better marking of all use restrictions. Installation of the corner monuments will be completed within 90 days of the inspection. All use restriction markers will be replaced with at-grade monuments with stamped brass markers, per the FFACO handbook. A follow up inspection will be completed at the completion of repair activities and observations will be documented.

E. CERTIFICATION

I have conducted an inspection of the Area 3 Septic Waste Systems 2 & 6, CAU 427, at the TTR in accordance with the Post-Closure Monitoring Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 16 November 2005

CAU 453: AREA 9 UXO LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 16 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 02 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?	X		Subsidence, see below
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?		X	
b. Have any signs been damaged or removed? (Number of signs replaced: 0)		X	
c. Were gates locked?		X	No lock present at the time of the inspection. The previously installed lock has been removed. A lock will be installed within 90 days per NNSA direction.

CAU 453: AREA 9 UXO LANDFILL, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?	X		Subsidence, see below
b. Is there cracking?	X		Subsidence, see below
c. Is there evidence of erosion around the cap (wind or water)?		X	
d. Is there evidence of animal burrowing?		X	
e. Have the site markers been disturbed by man or natural processes?		X	
f. Is vegetation present?	X		Sparse
g. Do natural processes threaten to integrity of any cover or site marker?		X	
h. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (7)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?		X	Subsidence, see below
4. Is other maintenance/repair necessary?	X		Subsidence, see below
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: Several large areas of subsidence were noted on cell A9-3, and one small but deep area of subsidence was noted on cell A9-1. Areas of subsidence on cells A9-1 and A9-3 were reviewed with NNSA and BN personnel. Some cracking associated with the subsidence was also noted. The subsidence will be repaired within 90 days of this inspection. A new lock will also be requested from TTR security and installed within 90 days. A follow up inspection will be completed at the completion of repair activities and observations will be documented.

E. CERTIFICATION

I have conducted an inspection of the Area 9 UXO Landfill, CAU 453, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature:	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 16 November 2005

CAU 487: THUNDERWELL SITE, POST-CLOSURE INSPECTION CHECKLIST

Inspection Date: 16 November 2005	
Responsible Agency: NNSA/NSO ER	NNSA Project Manager: Kevin Cabble
Date of Last Inspection: 02 June 2005	Reason for Last Inspection: Semiannual inspection
Inspector (name, title, organization): Brad Jackson BNER	
Assistant Inspector (name, title, organization): N/A	

A. GENERAL INSTRUCTIONS

1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is provided. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, and annotated site maps.
3. The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to examine the entire surface and all features specifically described in the checklist.
4. A standard set of color 35 mm photographs (or equivalent) is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION
1. Site as-built plans and site base map reviewed.	X		Closure figures
2. Previous inspection reports reviewed.	X		
a. Were anomalies or trends detected on previous inspections?	X		Several monuments pushed over by horses
b. Was maintenance performed?		X	
3. Site maintenance and repair records reviewed.	X		
a. Has site repair resulted in a change from as-built conditions?		X	
b. Are revised as-builts available that reflect repair changes?		X	N/A

C. SITE INSPECTION (To be completed during inspection)	YES	NO	EXPLANATION
1. Adjacent off-site features within watershed areas.			
a. Have there been any changes in use of adjacent area?		X	
b. Are there any new roads or trails?		X	
c. Has there been a change in the position of nearby washes?		X	
d. Has there been lateral excursion or erosion/deposition of nearby washes?		X	
e. Are there new drainage channels?		X	
f. Change in surrounding vegetation?		X	
2. Security fence, signs.			
a. Displacement of fences, site markers, boundary markers, or monuments?	X		Several monuments pushed over by horses, and two monuments have cracked or broken tops. Monuments will be repaired within 90 days.
b. Have any signs been damaged or removed? (Number of signs replaced: Ø)		X	

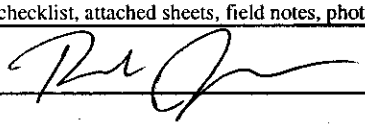
CAU 487: THUNDERWELL SITE, POST-CLOSURE INSPECTION CHECKLIST

3. Waste Unit cover.	YES	NO	EXPLANATION
a. Is there evidence of settling?		X	
b. Is there evidence of animal burrowing?	X		Minor
c. Have the site markers been disturbed by man or natural processes?	X		Several monuments pushed over by horses, and two monuments have cracked or broken tops. Monuments will be repaired within 90 days.
d. Other?		X	
4. Photo Documentation			
a. Has a photo log been prepared?	X		
b. Number of photos exposed (6)			
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required)		X	
Person/Agency to whom report made:			
2. Are more frequent inspections required?		X	
3. Are existing maintenance/repair actions satisfactory?	X		
4. Is other maintenance/repair necessary?		X	
5. Is current status/condition of vegetative cover satisfactory?	X		

6. Rationale for field conclusions: Several monuments have been pushed over by horses. Two of the monument tops were cracked and/or broken, the monuments will be repaired using an appropriate concrete repairing material (glue, epoxy, or cement-based mixture). Repairs will be made within 90 days. Monuments will be either placed deeper, set with a footing, or have posts set around them to better protect from vandal horses. A follow up inspection will be completed at the completion of repair activities and observations will be documented.

E. CERTIFICATION

I have conducted an inspection of the Area 9 UXO Landfill, CAU 453, at the TTR in accordance with the Post-Closure Inspection Plan (see Closure Report) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: 	Printed Name: Brad Jackson
Title: TTR PCI Task Manager	Date: 16 November 2005

ATTACHMENT D.
FIELD NOTES

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176 PROJECT NO.
BOOK NO.

TITLE CAU 427 LUR boundary marking (Red-Rock renewal)

Work continued from Page N/A

Wed April 6, 2005 CAU 427: Area 3 Septic Waste Systems 2 & 6, TTR
CAS 03-05-002-SW02
CAS 03-05-002-SW06

Personnel: TL Shaughna Burnison
Tm Brad Jackson
NNSA Rep Kevin Cabble
WGS Laborer Ben Sperry
WGS Laborer Allen ?
WGS Laborer Josh Kauffman

Equipment: Shovels, pick, wheelbarrow, 6 cu ft red cinder rock.
2 x 100' Tapemeasures, Engineering Site schematic,
Measurement Diagrams from FY03 PCER

Weather: Warm & windy (65°); Wind 20 mph South

Scope: Locate & dig out corner points of 5 use restricted areas (4 leachfields & 1 removed septic tank); then renew the surface marking with new red cinder rock, Spray paint boundaries as needed.

Tailgate briefing: SOW, Wind, Traffic awareness, lifting, use of handtools, PPE req'd.

2:00 pm: Converged to site, explained SOW to crew, safety briefing
Located 13 of 21 markers & dug out old material & surface mtl. Marked boundaries of overlapping leachfields "A", "B", & "Abandoned" with paint. Marked w/ paint intersection of Bldg 0370 w/ Leachfield "A"

4:00 pm: DEPARTED FOR THE DAY ...

Work continued to Page 177

SIGNATURE Shaughna A Burnison			DATE 4/6/05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

Thu April 7, 2005 CAU 427 continued...

Tailgate: Very Windy > 25 mph

09:00 Continued work from previous day...
Located remaining 8 corner points, including from "Pre-65" leachfield & 5 points from removed septic tank 33-5.

Renewed red cinder-rock marking material in each dug-out hole.

10:30 Job complete.

11:00 – 2:00pm { Lunch, paperwork, & provided measurement diagrams to WGS - Proj. Mgr.
Departed from YTR → NTS

Work continued to Page

SIGNATURE			DATE 4/7/05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

PROJECT NO.
BOOK NO.

1 June 05 — Weather clear, warm, with light wind
TTR Post-Closure Inspections — B. Jackson & K. Cobble

1127 - CAU 424 LF 3-2 Photos 97, 96 & 95
Monuments are in good condition and all signs are readable vegetation is well established. No issues noted.

1142 - CAU 424 LF 3-1 Photos 94, 93 & 92
All monuments and signs are in good condition. Repairs made in fall 2004 look very good and vegetation is established throughout the site. No issues noted.

1154 - CAU 424 LF 3-6 Photos 91 & 90
All monuments and signs are in good condition, Vegetation is well established. No issues noted

1212 - CAU 424 LF 3-5 Photos 89, 88 & 87
All monuments and signs are in good condition, Vegetation is sparse, It appears the area and landfill cover have been recently scraped to remove excess vegetation, No issues noted.

1246 - CAU 424 LF 3-3 Photos 86, 85, 84, 83, 82, 81
All above ground and at-grade monuments were located and were in good condition. No vegetation was present around the at-grade monuments and some sparse vegetation was present near the above-grade monuments. No issues noted

1332 - CAU 424 LF 3-8 77, 76, 75, 74
Three of four at grade monuments were located and were in good condition. The fourth at-grade monument is within a radiologically controlled area and is covered by material stored in the yard. The monument will be verified in future inspections when the material is removed. No issues noted

Work continued to Page 111

SIGNATURE			DATE 1 June 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

TTR PCI Cont.

1336 - CAV424 LF 3-4 Photos 73, 72, 71, 70, 69

All aboveground monuments and signs were located and were in good condition. One at grade monument was located and one near the road was apparently covered by gravel and will be evaluated using a metal detector during the next inspection. Repairs made during fall 2004 look very good and vegetation is beginning to establish throughout the site. No significant issues noted at this time.

1400 - CAV 407 Photos 68, 67, 66, 65, 64, 63, 62, 61, 60, 59

The cover, fence, and signs are in good condition. Vegetation is beginning to become well established and has good coverage on the cover. Irrigation will continue until completion is determined by the biologist. No issues noted.

1417 - CAV 404 Photos 58, 57, 56, 55, 54, 53, 52, 51

The cover, fence, and signs are in good conditions. Vegetation is well established within the fence and on the cover. No issues noted.

1441 - CAV 400 Bomblet Pit Photos 50, 49, 48, 47, 46, 45, 44, 43, 42, (41), 40,

Fence and signs are in good condition. Vegetation is well established and is nearly as good as that outside of the fence. Collected tat/long coordinates for PCI REAP. No issues noted

1514 - CAV 400 5-Points LF Photos 39, 38, 37, 36

fence and signs are in good condition. Repairs completed during fall 2004 look very good and revegetation is establishing well. No issues noted

SIGNATURE			DATE 1 Jun 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

TTR PCI Cont. 2 June 2005 weather clear, warm B. Jackson K. Cobble

0745 CAV 487w A8 Photos 35, 34, 33

All monuments and signs are present. The Northwest corner monument is lying on the ground and appears to have been knocked over. Arrangements will be made to have the monument set upright. No significant issues noted at this time.

0821 CAV 487 E A17 Photos 32, 31, 30, 29, 28, 27, 26, 25, 24, 23

All monuments and signs are present. The SE, NE, and NW monuments are lying on the ground and appear to have been knocked over. There are hoof prints and horse droppings around the NE monument. The NW and SE monuments are cracked and partially broken around the top. Arrangements will be made to reset the monuments in the ground and repair the broken tops. No other issues were noted. Repairs will be completed prior to the Fall 2005 inspections (confirmed with Kevin Cobble).

1047 CAV 426 Photos 15, 14, 13, 12, 11, 10

Fence and signs are in good condition. Vegetation is well established and healthy throughout the site. No issues noted

1243 CAV 427 Photos 9, 8, 7, 6, 5

All leachfield markers (red rock covering metal plate) were located and determined to be in good condition. No issues noted.

1321 CAV 423 Photo 1

The sign marking the UDP was located and was in good condition No issues noted.

1348 CAV 453 Photos 4, 3, 2, 1

fencing, signs, and monuments were all in good condition. No issues noted.

SIGNATURE			DATE 2 June 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

20 June 05 weather warm - clear - B. Jackson
Purpose of visit to TTR is to confirm maintenance activities at CAV 487 to set upright the above ground movements at CAV 487 locations A-8 and A-17. Also the camera used to take photos during the 1-2 June 05 inspection malfunctioned and photos for 424 LF cell A3-3, A3-5, and A3-8 were partially damaged. Replacement photos were taken on 20 June 05 for these areas.

0815 - 487 A-8 & A17 - above grade movements have been set upright and are in good condition. Westinghouse is obtaining a polymer cement to fill the crack on the cracked movement tops.

0943 - Take additional photos of CAV 424 landfill cells to replace the damaged files from the 1-2 June 05 inspection.

1307 - met with Jenco to discuss logistics for support of pipe removal at CAV 423.

SIGNATURE			DATE 20 June 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

128 TITLE

Work continued from Page N/A

PROJECT NO.

BOOK NO.

Tue 15Nov05 weather: Sunny, Calm, Cool

TTR PC1 B. Jackson, K. Cabble, T. Zaferatos

1408 - 400 - 5-Point LF

Fencing and signs are all in good condition. Vegetation in the middle of site is still sparse due to revegetation in 2004. 6 Photos

1432 - 400 - Bomblet P.t

Fencing and signs are all in good condition. Vegetation remains well established. NNSA/NDEP suggested proposing to remove the fence after next years (2006) inspections. 3 Photos

1445 - 404 - Roller Coaster Screen Layout

Fencing and signs are all in good condition. Some minor burrowing and bending of rabbit fencing along east side. Vegetation and cover are in good condition. 7 Photos

1503 - 407 - Roller Coaster Road Safe 8 Photos, Kevin requests why NO UR signs. Top strand of barbed-wire fencing was broken on the south side of site, approx 100' extending from gate to the east. A rod posting sign was flipped over upside down, apparently from wind. The fence and signs were repaired until official repairs can be made. All other areas (fences, signs, cover) are in good condition

1521 - 426 - Cactus Spring 4 photos

Fencing and signs are in good condition, Vegetation is well established and there is no erosion on the cover.

1535 - 1621 - Meet with John Hollard AF-EOD

1632 - 424 - A3 Landfill A3-5 2 Photos

Monuments and signs are in good condition. No ground disturbance within UR.

Work continued to Page 129

SIGNATURE			DATE 15 Nov 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

Tue 15Nov05
TTR PCI - continued

1645 - 424 - A3 Landfill A3-8 4 Photos
One at grade monument at the southwest corner of the site continues to be covered by Sandia recycling debris and can not be visually inspected, however there are no signs of ground disturbance and the monument is expected to be present. All other at-grade monuments were located and are in good condition

1703 - 424 A3 Landfill A3-4 4 Photos
Monuments and signs are in good condition. No ground disturbance within VR, 2004 repairs look good, Good vegetation coverage, albeit cheat grass.

1712 - 424 A3 Landfill A3-6 3 Photos
Monuments and signs are in good condition. No ground disturbance within VR.

EOR

SIGNATURE			DATE 15Nov05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

130 TITLE

Work continued from Page N/A 129

PROJECT NO.

BOOK NO.

Wed 16 Nov 05 weather: sunny, light breeze, cool

TTR PCI - cont. B. Jackson, K. Cobble, T. Zafereatos, S. Burrison, G. Richardson

0907 427 A3 Septra System 2,6 13 Photos

There was still a considerable amount of excavation activity around Bldg 0370. Leadfield boundaries were measured off of building corners and it was confirmed that no excavations were within the UR Boundaries. The remaining UR disturbed areas were inspected and all corners, evident by red rock, were present and in good condition. NNSA/NDEP requested that corners subsurface plates be replaced by at-grade or slightly subgrade monuments. A Plan should be included in the 2005 PCI report.

1025 423 Area 3 UDP 1 Photo

The monument and sign were intact and in good condition. The scope for pipe removal was discussed.

1038 453 A9 UXO LF 20 Photos

Fencing and signs are in good condition. Significant subsidence is present in the east end of cell A9-3 several areas of subsidence of 1-3 feet are present in the eastern end and one larger area of approximately 70' by 30' was present in the east-central area of the A9-3 cell. A third some minor subsidence consisting mainly of a ~1-foot ϕ hole with unknown depth. This site requires immediate repairs in accordance with the CR. Subsidence present in A9-1 & A9-3

Work continued to Page 131

SIGNATURE			DATE 16 Nov 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

Wed 16 Nov 05
ITR PC1 - cont

1055 487 A17 Thunderwell 5 Photos
Three out of four above-grade concrete monuments are on the ground apparently pushed over by horses (hoof prints and piles of dung are around the monuments). The same condition was noted in 2004. Other than the monument issue, the site is in good condition. Repairs need to upright the downed monument, burry deeper or set in concrete base. Repair broken/cracked monument typ.

1122 487 A08 Thunderwell 4 Photos
One above-grade concrete monument is on its side on the ground. Repair monuments as described for A17. ~~Other~~ One adjacent monument has a cracked end and needs to be repaired before it breaks off.

1255 424 A3-2
All monuments and signs are in good condition. No signs of UR disturbance. 2004 repairs look good with good vegetation coverage, albeit cheat grass.

1312 424 A3-1
All monuments and signs are in good condition, No signs of UR disturbance

1321 424 A3-3
All above-grade and at-grade monuments are in good condition, and no signs of UR disturbance.

EoR

SIGNATURE			DATE 16 Nov 05
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

ATTACHMENT E.
PHOTOGRAPHS

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PHOTOGRAPH LOG

PHOTOGRAPH	DATE	DESCRIPTION
1	06/01/2005	CAU 400 Bomblet Pit, looking south
2	11/15/2005	CAU 400 Bomblet Pit, looking south
3	06/01/2005	CAU 400 Bomblet Pit, looking west
4	11/15/2005	CAU 400 Bomblet Pit, looking west
5	06/01/2005	CAU 400 Five Points Landfill, looking east
6	11/15/2005	CAU 400 Five Points Landfill, looking east
7	06/01/2005	CAU 400 Five Points Landfill, looking east
8	11/15/2005	CAU 400 Five Points Landfill, looking east
9	06/01/2005	CAU 404, looking east
10	11/15/2005	CAU 404, looking east
11	06/01/2005	CAU 407, looking east
12	11/15/2005	CAU 407, looking east
13	06/01/2005	CAU 407, looking southwest
14	11/15/2005	CAU 407, looking northeast
15	06/02/2005	CAU 423, looking east
16	11/16/2005	CAU 423, looking east
17	06/01/2005	CAU 424, Landfill Cell A3-1, looking south
18	11/16/2005	CAU 424, Landfill Cell A3-1, looking north
19	06/01/2005	CAU 424, Landfill Cell A3-2, looking north
20	11/16/2005	CAU 424, Landfill Cell A3-2, looking north
21	06/01/2005	CAU 424, Landfill Cell A3-3, looking west
22	11/16/2005	CAU 424, Landfill Cell A3-3, looking west
23	06/01/2005	CAU 424, Landfill Cell A3-3, looking north
24	11/16/2005	CAU 424, Landfill Cell A3-3, looking north
25	06/01/2005	CAU 424, Landfill Cell A3-4, looking north
26	11/15/2005	CAU 424, Landfill Cell A3-4, looking north
27	06/01/2005	CAU 424, Landfill Cell A3-5, looking southeast
28	11/15/2005	CAU 424, Landfill Cell A3-5, looking southeast
29	06/01/2005	CAU 424, Landfill Cell A3-6, looking northwest
30	11/15/2005	CAU 424, Landfill Cell A3-6, looking northwest
31	06/01/2005	CAU 424, Landfill Cell A3-8, looking north
32	11/15/2005	CAU 424, Landfill Cell A3-8, looking west

PHOTOGRAPH	DATE	DESCRIPTION
33	06/02/2005	CAU 426, looking north
34	11/15/2005	CAU 426, looking north
35	06/02/2005	CAU 427, looking north
36	11/16/2005	CAU 427, looking north
37	06/02/2005	CAU 427, looking south
38	11/16/2005	CAU 427, looking south
39	06/02/2005	CAU 453, looking west
40	11/16/2005	CAU 453, looking west
41	11/16/2005	CAU 453, soil subsidence
42	11/16/2005	CAU 453, soil subsidence
43	06/02/2005	CAU 487, A-8 anomaly, looking southwest
44	11/16/2005	CAU 487, A-17 anomaly, looking north
45	11/16/2005	CAU 487, A-8 anomaly, fallen monument
46	11/16/2005	CAU 487, A-17 anomaly, fallen monuments

Photograph 1: CAU 400 Bomblet Pit, looking south, 06/01/05

Photograph 2: CAU 400 Bomblet Pit, looking south, 11/15/05

Photograph 3: CAU 400 Bomblet Pit, looking west, 06/01/05

Photograph 4: CAU 400 Bomblet Pit, looking west, 11/15/05

Photograph 5: CAU 400 Five Points Landfill, looking east, 06/01/05

Photograph 6: CAU 400 Five Points Landfill, looking east, 11/15/05

Photograph 7: CAU 400 Five Points Landfill, looking east, 06/01/05

Photograph 8: CAU 400 Five Points Landfill, looking east, 11/15/05

Photograph 9: CAU 404, looking east, 06/01/05

Photograph 10: CAU 404, looking east, 11/15/05

Photograph 11: CAU 407, looking east, 06/01/05

Photograph 12: CAU 407, looking east, 11/15/05

Photograph 13: CAU 407, looking southwest, 06/01/05

Photograph 14: CAU 407, looking northeast, 11/15/05

Photograph 15: CAU 423, looking east, 06/02/05

Photograph 16: CAU 423, looking east, 11/16/05

Photograph 17: CAU 424, Landfill Cell A3-1, looking south, 06/01/05

Photograph 18: CAU 424, Landfill Cell A3-1, looking north, 11/16/05

Photograph 19: CAU 424, Landfill Cell A3-2, looking north, 06/01/05

Photograph 20: CAU 424, Landfill Cell A3-2, looking north, 11/16/05

Photograph 21: CAU 424, Landfill Cell A3-3, looking west, 06/01/05

Photograph 22: CAU 424, Landfill Cell A3-3, looking west, 11/16/05

Photograph 23: CAU 424, Landfill Cell A3-3, looking north, 06/01/05

Photograph 24: CAU 424, Landfill Cell A3-3, looking north, 11/16/05

Photograph 25: CAU 424, Landfill Cell A3-4, looking north, 06/01/05

Photograph 26: CAU 424, Landfill Cell A3-4, looking north, 11/15/05

Photograph 27: CAU 424, Landfill Cell A3-5, looking southeast, 06/01/05

Photograph 28: CAU 424, Landfill Cell A3-5, looking southeast, 11/15/05

Photograph 29: CAU 424, Landfill Cell A3-6, looking northwest, 06/01/05

Photograph 30: CAU 424, Landfill Cell A3-6, looking northwest, 11/15/05

Photograph 31: CAU 424, Landfill Cell A3-8, looking north, 06/01/05

Photograph 32: CAU 424, Landfill Cell A3-8, looking west, 11/15/05

Photograph 33: CAU 426, looking north, 06/02/05

Photograph 34: CAU 426, looking north, 11/15/05

Photograph 35: CAU 427, looking north, 06/02/05

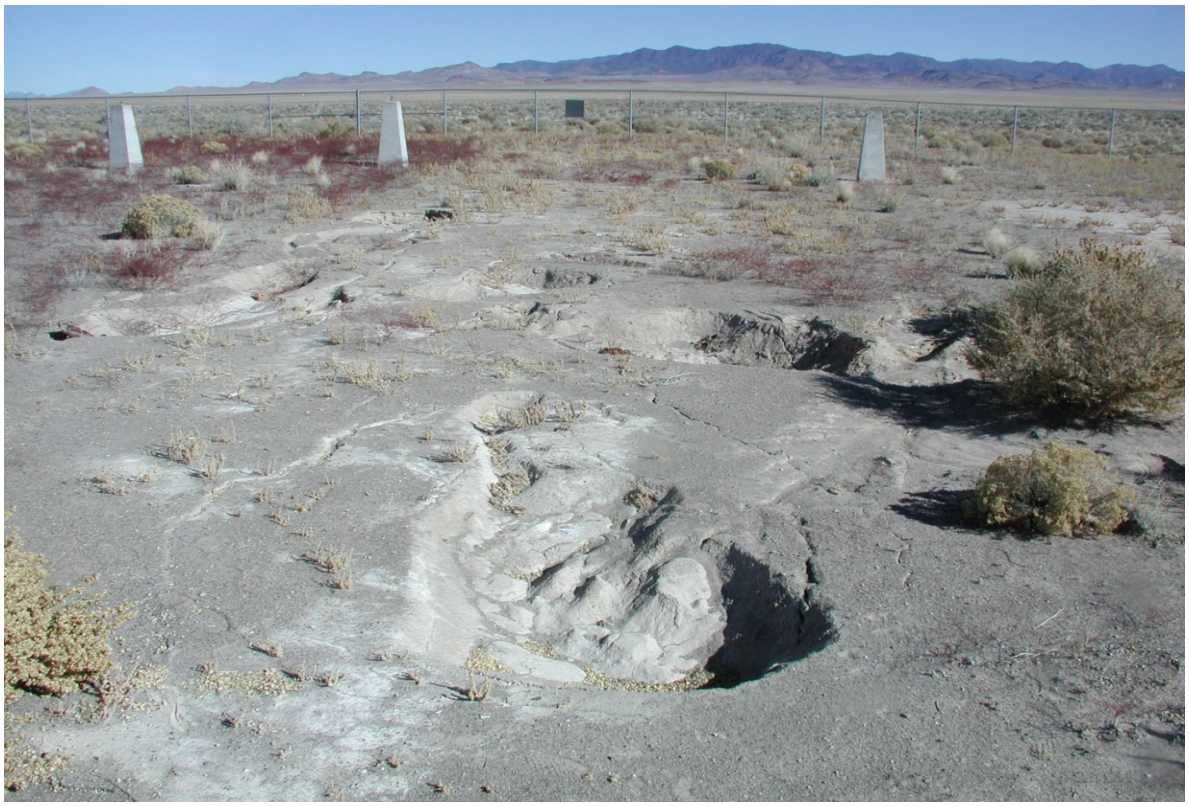
Photograph 36: CAU 427, looking north, 11/16/05

Photograph 37: CAU 427, looking south, 06/02/05

Photograph 38: CAU 427, looking south, 11/16/05

Photograph 39: CAU 453, looking west, 06/02/05

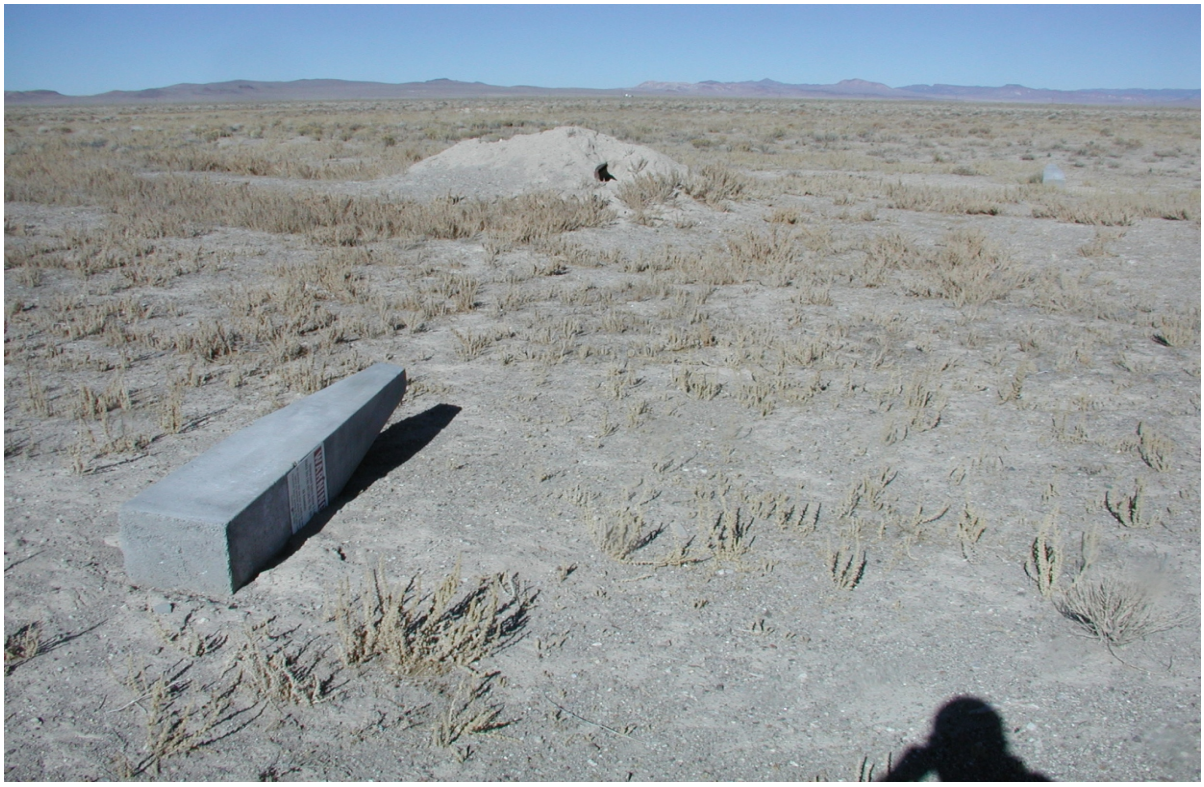
Photograph 40: CAU 453, looking west, 11/16/05



Photograph 41: CAU 453, soil subsidence, 11/16/05

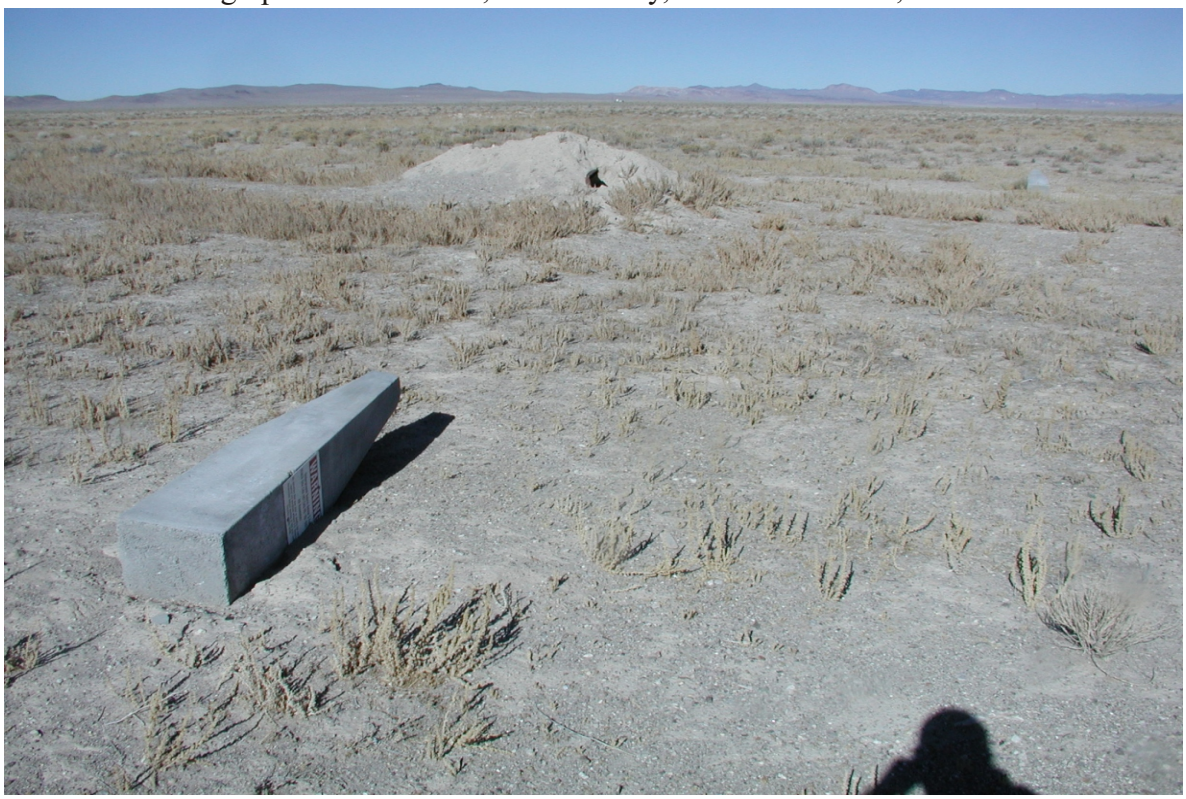
Photograph 42: CAU 453, soil subsidence, 11/16/05

Photograph 43: CAU 487, A-8 anomaly, looking southwest 06/02/05



Photograph 44: CAU 487, A-17 anomaly, looking north 11/16/05

Photograph 45: CAU 487, A-8 anomaly, fallen monument, 11/16/05



Photograph 46: CAU 487, A-17 anomaly, fallen monuments, 11/16/05

ATTACHMENT F.
POST-CLOSURE VEGETATION MONITORING REPORT

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POST-CLOSURE
VEGETATION MONITORING REPORT

CORRECTIVE ACTION UNITS:

400-FIVE POINTS LANDFILL

400-BOMBLET PIT

404-ROLLERCOASTER SEWAGE LAGOONS

426-CACTUS SPRINGS WASTE TRENCHES

407-ROLLERCOASTER RADSAFE

Field Work Completed on
June 7 & 8, 2005

Report prepared by
Bechtel Nevada
Ecological Services

September 2005

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I. BACKGROUND

Work at Corrective Action Units (CAU) 400-Five Points Landfill and Bomblet Pit, 404-Rollercoaster Sewage Lagoons, and 426-Cactus Springs Waste Trenches was completed during the summer of 1997. In the fall of 1997 these four closure sites were seeded with a mix of native shrub and grass seeds. Each site was mulched with straw that was crimped into the soil. Sites were protected from grazing animals (primarily horses and rabbits) by installing a four-strand barbed-wire fence with two-foot high chicken wire fence along the base. In the fall of 2000, the cover at CAU 407-Rollercoaster RADSAFE area was revegetated with a mix of native shrubs and grasses. The site was covered with a straw-mulch and was crimped into the soil. The site was fenced with several strands of wire with the primary purpose of preventing inadvertent human entry to the site and preventing horses from accessing the site.

Remedial revegetation efforts have occurred at two of the original sites. A flash flood swept through the center of the CAU 400-Five Points Landfill site in the summer of 2003. The perimeter fence along the northeastern edge of the site was damaged and many plants in the path of the flood waters were submerged or coated with a thin layer of mud. Many of the plants died leaving large areas without vegetation. The damaged fence was repaired and the site was seeded in the fall of 2004. Native plant species (Table 1) were seeded at a rate of 39.6 pounds per acre (lbs/ac) of pure live seed (PLS). Site preparation included the removal of dead vegetation and pulling a drag chain over the site to roughen the soil surface. The site was seeded using a broadcast seeder mounted on the front of an all terrain vehicle (ATV) (Figure 1). Drag chains were pulled behind the seeder to cover the seed (Figure 1).

Table 1. Seed mix used for remedial revegetation CAU 400-Five Points Landfill.

	Common Name	PLS (lbs/ac)
Shrubs	Basin Big Sagebrush	0.8
	Fourwing Saltbush	1.7
	White burrobrush	4.5
	Winterfat	4.5
Grasses	Indian Ricegrass	3.3
	Squirreltail	1.8
	Galleta	2.0
Totals		39.6

Figure 1. Kawasaki mule, equipped with a front-mounted broadcast seeder and drag chain, was used to prepare and seed the site.

CAU 407-Rollercoaster RADSAFE area was disturbed during the construction of erosion control measures after it was originally seeded in the fall of 2000. The construction activities resulted in the removal of all the vegetation on the surface of the cover cap. Over the past four years the soils on the cover cap had become compacted and erosion was occurring along the edges. In the fall of 2004 repair work was made to the erosion channels along the edges of the cover cap. Soil was hauled to the site and erosion channels were filled. The soil cover was then ripped (by a grader equipped with ripper teeth) to a depth of approximately 6 inches (in) to alleviate soil compaction. The site was seeded with a mix of native plant species at a rate of 22.2 PLS lbs/ac (Table 2) using the same equipment and process used for remedial work at the Five Points Landfill. After the site was seeded a straw mulch netting (Figure 2) was installed to protect the site from erosion. Supplemental irrigation was used at the site starting in February 2005 (Figure 3) and continuing through June. Supplemental irrigation was used at this site to ensure there would be sufficient soil moisture for seed germination and plant establishment. Establishment of a vegetative cover was necessary to prevent erosion along the edges of the cover cap. Approximately 3.75 in of supplemental precipitation was applied during irrigation events in December (1.0”), February (0.5”), March (1.0”), May (0.75”) and June (0.5”).

Table 2. Seed mix used for CAU 407-Rollercoaster RADSAFE area.

	Common Name	PLS lbs/acre
Shrubs	Budsagebrush	0.2
	Fourwing Saltbush	2.6
	Shadscale	6.0
	Winterfat	7.0
Grasses	Indian Ricegrass	2.0
	Squirreltail	2.0
	Galleta	2.0
Forbs	*Desert globemallow*	0.4
		22.2

Figure 2. Installation of straw netting at the CAU 407 RADSAFE area.

Figure 3. Irrigation system consisting of 15 sprinkler heads was used to apply approximately 3.75 inches of supplemental irrigation.

Site monitoring began the year after revegetation occurred at the site. Monitoring the first year is designed to determine if germination of seeded-plant species had occurred and included plant density estimates and photographic documentation. Monitoring in subsequent years evaluated plant establishment, evaluated long-term vegetation survival, and compared plant cover and density with adjacent reference areas (undisturbed sites). This report documents the methodology and results of monitoring efforts conducted in June 2005 at CAU 400-Five Points Landfill, CAU 400-Bomblet Pit, CAU 404 Rollercoaster Lagoons, CAU 407-Rollercoaster RADSAFE and CAU 426 Cactus Springs waste trenches, all located on the Tonopah Test Range in central Nevada.

II. MONITORING METHODS

BN Ecological Services staff scientists inspected the closure sites on June 7 and 8, 2005. Plant cover and density estimates were made, wildlife usage was noted, and soil erosion conditions were determined. Plant cover was estimated using an optical point projection device or cover scope. Cover sample points are taken at given intervals along a permanent placed linear transect. Plant density was estimated using one meter square quadrats, also placed at given intervals along each transect. The total number of individual plants located within the boundaries of the quadrat was recorded. The data were averaged over all quadrats to obtain average plant densities, i.e. plants per square meter ($/m^2$). Wildlife usage of the site was determined by noting any wildlife or wildlife sign i.e. burrows, observed during sampling. The erosion condition of the soil over the site in general was determined using a modified Bureau of Land Management erosion condition classification (Appendix F.3). Reference areas were similarly sampled and cover and density estimates serve as a standard to evaluate revegetation success.

III. MONITORING RESULTS

A. CAU 400-FIVE POINTS LANDFILL

Overall plant density decreased by about 23% from 2004 to 2005. There actually was a slight increase in shrub density (Table 3) but the density of grasses continues its decline, showing an almost 70% decrease from densities reported in 2004. The density of both Indian ricegrass and squirreltail grass declined. Indian ricegrass has shown a gradual annual decline since 2000 (Table 3).

Plant cover decreased by a little over 10% (Table 3) and represents the lowest amount of plant cover at this site since it cover data was taken in 2000. The decline is a direct result of the flooding that occurred at the site in 2003. Plants are either recovering from the effects of the flash flood or new seedling are just becoming established and do not contribute much to overall plant cover.

Wildlife use of the site has been evident the first few years after revegetation was completed. Several small mammal burrows are located throughout the site but are most abundant in the southeastern section of the site. Occasional rabbit scat was observed but there is no indication that the shrubs are being detrimentally browsed by rabbits.

There was no evidence of an erosion problem up until 2003. A flash flood entered the area from the east via a natural drainage channel as a result of a summer thunderstorm. The rushing waters removed much of the vegetation along the eastern edge of the drainage then ponded in the depression of the western end of the closure site. Vegetation was inundated with water for an extended period of time resulting in the death of the existing vegetation. Receding waters left many plants on the periphery of the standing water covered with a thick coat of mud, which in many cases resulted in plant mortality. No additional erosion damage was observed on site since remedial work was completed last fall.

Table 3. Plant density and cover on CAU 400-Five Points Landfill

Plant Density (# Plants /m^2)		**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrubs	Bud sagebrush	0.0	0.1	0.1	0.0	0.0	0.0
	Fourwing saltbush	0.7	1.0	1.4	1.1	1.4	0.1
	Greene's rabbitbrush		- Not	Seeded -			0.5
	Winterfat	0.0	0.0	0.0	0.03	0.03	0.0
	Total shrubs	0.7	1.1	1.5	1.1	1.4	0.6
Grasses	Squirreltail	2.2	0.3	0.8	0.4	0.1	0.0
	Galleta	0.6	0.0	0.4	0.1	0.0	0.03
	Indian ricegrass	4.8	3.2	2.1	1.0	0.4	1.1
	Total grasses	7.1	3.6	2.9	1.6	0.5	1.2
Total Perennials		7.7	4.7	4.4	2.6	1.9	1.8
Total Annuals		10.2	0.4	1.3	13.5	56.4	*

Plant Cover	**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrub	2.5	8.3	9.2	8.1	9.0	8.1
Grass	10.0	22.5	10.0	3.7	1.3	3.1
Perennial Plant Cover	12.5	30.8	19.2	11.8	10.3	11.3
Annuals (not seeded)	3.3	1.7	0.0	2.2	9.0	10.0
Bare Ground/Rock	66.6	50.0	57.5	59.6	69.3	66.2
Litter/Mulch	17.5	17.5	23.3	26.5	11.5	12.5
Wildlife		Small mammal burrows	Small mammal burrows	Small mammal burrows	Small mammal burrows	Small mammal burrows
Erosion Classification	Stable	Stable	Critical	Critical	Stable	

* Density of Annuals not recorded for reference site in 2005

B. CAU 400-BOMBLET PIT

Plant density at CAU 400-Bomblet Pit this year was 8% lower than it was in 2004 (Table 4). There are still just three shrubs (bud sagebrush, fourwing saltbush and shadscale) found on the site. The density of bud sagebrush was about the same as it was last year, however, no fourwing saltbush was encountered but a few winterfat plants were found. The density of shadscale decreased by 13% from 2004 to 2005. As in 2004 no grasses were encountered. The density of annual plants, taking advantage of an abundance of spring precipitation, showed a five-fold increase over last year's.

Table 4. Plant density and cover on CAU 400-Bomblet Pit

Plant Density (# Plants /m^2)		**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrubs	Bud sagebrush	3.8	2.5	2.6	0.8	0.9	2.7
	Fourwing saltbush	0.5	0.3	0.2	0.2	0.0	0.0
	Shadscale	6.8	6.5	6.4	5.3	4.7	1.1
	Winterfat	0.3	0.0	0.1	0.0	0.1	0.3
	Total Shrubs	10.0	9.2	9.2	6.2	5.7	4.2
Grasses	Squirreltail	3.1	0.0	0.0	0.0	0.0	0.0
	Galleta	0.0	0.0	0.0	0.0	0.0	0.3
	Indian ricegrass	2.5	0.2	0.4	0.0	0.0	0.3
	Total Grasses	6.9	0.2	0.4	0.0	0.0	0.6
Total Perennials		16.9	9.4	9.6	6.2	5.7	4.8
Total Annuals		5.4	0.3	0.1	1.1	56.0	0.5

Plant Cover	**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrub	15.8	18.8	10.0	7.5	8.8	11.3
Grass	2.6	0.0	0.0	0.0	0.0	0.0
Perennial Plant Cover	18.4	18.8	10.0	7.5	8.8	11.3
Annuals (not seeded)	0.0	0.0	0.0	0.0	3.8	2.5
Bare Ground/Rock	63.2	61.3	73.8	78.8	72.5	70.1
Litter/Mulch	18.4	20.0	16.3	13.8	15.0	16.3
Wildlife	Small mammal burrows					
Erosion Classification	Stable	Stable	Stable	Stable	Stable	

Plant cover increased by about 17% over an all time low of 7.5% in 2004 (Table 4). The composition of plant cover, like plant density, was 100% shrub, which is the same pattern as in the native plant community. Although density decreased slightly this year, those plants that have survived the drought conditions of the last few years, are showing good signs of growth.

There were no signs of herbivory or erosion at this site. The invasion of the site by halogeton, a noxious weed that dominated the area prior to closure, still does not appear to be a problem. After reaching a maximum density of 27.4 plants/m^2 in 1999, the density of halogeton declined to 0.1 plants/m^2 from 2002 to 2004 and this year was not found on the site.

C. CAU 404-ROLLERCOASTER SEWAGE LAGOONS

Plant density on the staging area at the Rollercoaster sewage lagoon site as leveled off at about 6.5 plants/m^2. Plant densities were higher the first couple years but since 2002 there have only been slight changes. The ratio of shrubs and grasses continues to be about the same also. There are about 6.2 shrubs/m^2 and 0.2 to 0.3 grasses/m^2.

Perennial plant cover increased from 17% in 2004 to 20% in 2005 (Table 5). The contribution of grasses to overall plant cover has always been low on the staging area and that trend continued this year. Less than 1% of the cover was from grasses. For the first time forbs contributed to overall plant cover.

There are several small mammal burrows scattered over the site. There is not indication that rabbits are heavily browsing the plants on the site.

The only indication of erosion is around the main gate. There is evidence of some overland water flow from off the access road. There are no recent signs of erosion. The overland flow occurred during the summer of 2003 from some intensive thunderstorms that passed through the area. Plants do not seem to have been affected. There are no signs of rilling or channeling.

Halogeton, a noxious weed, is present on the staging area as well as in the native plant community (Reference Area). The density of halogeton was 1.6 plants/m^2 in 2004, but dropped to 0.1 plants/m^2 in 2005. The establishment of both perennial and annual native plants should be detrimental to the success of halogeton at this site.

Plant density is maintaining at about 13 plants/m^2 on the cover cap (Table 5). Eight of the plants are shrubs and five are grasses. Shadscale continues to be the most dominant species. Bud sagebrush and fourwing saltbush are present but at lower densities. Galleta grass is the most common grass. The only other grass encountered was Indian ricegrass which decline slightly this year in comparison to 2004. Squirreltail grass was not found last year but there were a few plants encountered this year. There was an abundance of annuals this year, more than in any other year.

Plant cover on the cover cap was the highest this year than it has ever been. The 28.8% represents almost twice as much cover this year on the staging area as last year (Table 5). Shrub cover this year is almost twice as much as it has been in any other year. There was almost four times as much grass cover this year as there was last year, but still not as high as it was the first couple years after revegetation when grasses were more abundant. Annuals contributed another 7.5% to overall plant cover this year which is a 6% increase over last year, which was the first year annuals contributed at all to plant cover.

Table 5. Plant density and cover on CAU 404-Rollercoaster Sewage Lagoons: Staging Area

Plant Density (# Plants /m^2)		**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrubs	Bud sagebrush	1.7	1.2	0.8	0.6	0.6	3.1
	Fourwing saltbush	0.3	0.2	0.1	0.1	0.1	0.0
	Shadscale	10.0	6.9	5.5	5.4	5.4	1.0
	Winterfat	0.0	0.1	0.1	0.1	0.1	0.1
	Total Shrubs	12.1	8.4	6.4	6.2	6.2	4.2
Grasses	Squirreltail	6.2	0.1	0.0	0.0	0.0	0.0
	Galleta	0.8	0.3	0.2	0.1	0.2	1.2
	Indian ricegrass	2.5	0.5	0.0	0.1	0.03	0.2
	Total Grasses	9.5	0.9	0.3	0.2	0.3	1.4
Total Perennials		21.6	9.3	6.7	6.4	6.5	5.6
Total Annuals		3.5	0.7	0.7	1.9	25.3	38.5

Plant Cover	**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrub	9.0	18.5	13.5	17.0	19.5	7.0
Grass	3.5	0.5	0.5	0.0	0.5	1.0
Perennial Plant Cover	12.5	19.0	14.0	17.0	20.0	8.0
Annuals (not seeded)	0.0	0.0	0.5	0.0	3.5	5.5
Bare Ground/Rock	56.5	53.0	69.0	61.5	69.0	76.5
Litter/Mulch	31.0	28.0	16.5	21.5	7.5	10.0
Wildlife						
Erosion Classification	Stable	Slight	Slight	Stable	Stable	

There are still a number of small mammal burrows around the base of the cover cap, but they do not appear to be detrimental to the integrity of the cover cap nor has there been an associated increase in erosion around the disturbed soils. There is an abundance of mature native shrubs and grasses around the periphery which have probably buffered the effect of the disturbed soils.

Table 6. Plant density and cover on CAU 404-Rollercoaster Sewage Lagoons: Cover Cap

Plant Density (# Plants /m^2)		**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrubs	Bud sagebrush	2.1	1.7	1.2	1.0	0.9	3.1
	Fourwing saltbush	0.9	0.6	0.3	0.5	0.6	0.0
	Shadscale	10.9	7.0	7.0	5.9	6.6	1.0
	Winterfat	0.3	0.1	0.0	0.0	0.0	0.1
	Total Shrubs	14.2	9.3	8.4	7.3	8.1	4.2
Grasses	Squirreltail	10.8	1.6	0.1	0.0	0.1	0.0
	Galleta	8.6	4.7	4.9	5.2	5.1	1.2
	Indian ricegrass	3.8	2.8	1.1	0.6	0.2	0.2
	Total Grasses	23.2	9.0	6.0	5.8	5.4	1.4
Total Perennials		37.5	18.3	14.4	13.1	13.5	5.6
Total Annuals		0.5	0.3	0.2	1.9	31.5	38.5

Plant Cover	**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrub	6.3	10.0	12.5	10.0	18.8	7.0
Grass	12.5	16.3	10.0	3.8	10.0	1.0
Perennial Plant Cover	18.8	26.3	22.5	13.8	28.8	8.0
Annuals	0.0	0.0	0.0	1.3	7.5	5.5
Bare Ground/Rock	73.8	65.0	71.3	77.5	57.5	76.5
Litter/Mulch	7.5	9.0	6.3	7.5	6.3	10.0
Wildlife						
Erosion Classification	Stable	Stable	Stable	Stable	Stable	

* Density of Annuals not recorded for reference site in 2005

D. CAU 426-CACTUS SPRINGS WASTE TRENCHES

Plant density on the staging area was more than double this year what it was last year (Table 7). The number of shrubs was about the same but like last year there were more than twice as many grasses this year than there were the year before. In the last two years the number of grasses has increased from 1.6/m^2 in 2003 to 6.3/m^2 this year. Squirreltail grass continues to be the most abundant grass at the site. Indian ricegrass is the next most common. Plant densities for both species more than doubled from what they were the year before.

Table 7. Plant density and cover on CAU 426-Cactus Springs Waste Trenches: Staging Area

Plant Density (# Plants /m^2)		**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrubs	Black sagebrush	0.0	0.1	0.0	0.0	0.0	0.8
	Bud sagebrush	0.0	0.1	0.0	0.0	0.0	0.0
	Fourwing saltbush	0.1	0.0	0.0	0.0	0.1	0.0
	Shadscale	0.1	0.0	0.0	0.1	0.0	0.3
	Nevada jointfir	0.3	0.2	0.3	0.1	0.3	0.2
	Douglas'rabbitbrush	0.1	0.1	0.2	0.1	0.2	0.0
	Rubber rabbitbrush	0.1	0.0	0.1	0.1	0.0	0.1
	Winterfat	0.0	0.0	0.0	0.0	0.1	0.0
	Total Shrubs	0.7	0.5	0.6	0.5	0.6	1.3
Grasses	Squirreltail	5.2	2.9	0.6	1.9	5.1	0.1
	Galleta	0.2	0.1	0.3	0.3	0.0	2.4
	Indian ricegrass	1.4	0.6	0.7	0.4	1.3	0.0
	Total Grasses	6.8	3.5	1.6	2.6	6.3	2.5
Total Perennials		7.5	4.0	2.2	3.1	6.9	3.8
Total Annuals		16.9	1.8	3.9	3.2	16.6	*

Plant Cover	**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrub	0.8	5.0	2.5	3.3	5.1	11.7
Grass	5.8	12.5	6.7	10.8	17.1	0.8
Perennial Plant Cover	6.6	17.5	9.2	14.1	23.2	12.5
Annuals (not seeded)	0.0	1.7	5.0	2.5	10.3	1.7
Bare Ground/Rock	50	42.5	50.0	59.2	47.0	75.8
Litter/Mulch	43.3	38.3	35.8	24.2	20.5	10.0
Wildlife						
Erosion Classification	Stable	Stable	Stable	Stable	Stable	

* Density of Annuals not recorded for reference site in 2005

There were 16.6 annual plants/m^2 found on the staging area at the Cactus Springs waste trenches site. Of those 16.6 plants/m^2, 6.2 or about one-third of the annual species are halogeton. Densities decreased to 2.4 plants/m^2 in 2004. Although density decreased this year, the density of halogeton is higher than any other species found at this site.

Perennial plant cover was the highest it has ever been on the staging area (Table 7). The 23.2% plant cover this year represents a 65% increase over last year. Shrub cover increased from 3.3%

to 5.1% and grass cover from 10.8% to 17.1%. In addition to the perennial plant cover, annual forbs contributed another 10.3% to overall plant cover.

There are a few small mammal burrows on the staging area. There are no signs of erosion.

Plant cover on the cover cap at the Cactus Springs waste trenches decreased to 10% this year, a decline of 7% over last year and the year before. All of the perennial plant cover was from shrubs, which is the first year since monitoring began that grasses have not contributed to perennial plant cover. Annual plants contributed to overall cover this year for the first time.

Table 8. Plant density and cover on CAU 426-Cactus Springs Waste Trenches: Cover Cap

Plant Density (# Plants /m^2)		**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrubs	Black sagebrush	0.0	0.0	0.0	0.0	0.0	0.8
	Bud sagebrush	0.0	0.0	0.0	0.0	0.0	0.0
	Fourwing saltbush	0.0	0.0	0.0	0.0	0.0	0.0
	Shadscale	0.0	0.0	0.0	0.0	0.0	0.3
	Nevada jointfir	1.0	1.3	1.3	1.5	1.3	0.2
	Douglas'rabbitbrush	0.1	0.1	0.1	0.1	0.3	0.0
	Rubber rabbitbrush	0.1	1.1	0.5	0.9	1.5	0.1
	Winterfat	0.1	0.0	0.0	0.0	0.0	0.0
	Total Shrubs	1.3	2.5	1.9	2.4	3.1	1.3
Grasses	Squirreltail	1.0	0.2	0.3	0.3	1.0	0.1
	Galleta	1.4	0.7	0.4	0.0	0.3	2.4
	Indian ricegrass	1.3	0.7	0.6	0.7	2.0	0.0
	Total Grasses	3.7	1.6	1.3	1.0	3.3	2.5
Total Perennials		5.0	4.1	3.2	3.4	6.4	3.8
Total Annuals		0.1	1.1	0.3	0.0	2.9	*

Plant Cover (%)	**May-00**	**Jun-02**	**Sept-03**	**June-04**	**June-05**	**Ref 05**
Shrub	0.0	6.7	15.0	10.0	10.0	11.7
Grass	3.3	8.3	1.7	6.7	0.0	0.8
Perennial Plant Cover	3.3	15.0	16.7	16.7	10.0	12.5
Annuals (not seeded)	0.0	0.0	0.0	0.0	10.0	1.7
Bare Ground/Rock	85.0	78.3	80.0	80.0	75.0	75.8
Litter/Mulch	11.7	6.7	3.3	3.3	5.0	10.0

Wildlife

Erosion Classification	Stable	Stable	Stable	Stable	Stable

There were some signs of rabbit scat, but there was no evidence of excessive browsing on the shrubs. There were no signs of erosion on the cover cap.

E. CAU 407-ROLLERCOASTER RADSAFE

This is the first year the vegetation was sampled at this site. In previous years the only plants present on the cover cap were annual weedy species. Only plant densities were recorded this year. Total plant density was 82.8 plants/m^2, which is relatively high in comparison to other closure sites. The number represents young seedlings which over time will naturally thin to a level the environmental conditions at the site will support. Two shrub species (Nevada jointfir and rubber rabbitbrush) that were included in the seed mix were not detected during sampling this year. Shadscale was by far the most abundant species followed by bud sagebrush, fourwing saltbush and winterfat. Galleta was the only species of grass that was not found on the site this spring. Galleta is a warm season grass and germination may have occurred after sampling was completed and will be detected during next year's sampling. Squirreltail grass was the most abundant grass found at the site. Indian ricegrass was present but at a density 1/3 of squirreltail grass.

Table 9. Plant cover at CAU 407-Rollercoaster RADSAFE Area

Plant Density (# Plants /m^2)		**June-05**	**Ref 05**
Shrubs	Bud sagebrush	2.9	3.1
	Fourwing saltbush	2.3	0.0
	Shadscale	17.5	1.0
	Nevada jointfir	0.0	0.0
	Rubber rabbitbrush	0.0	0.0
	Winterfat	0.7	0.1
	Total Shrubs	23.4	4.2
Grasses	Squirreltail	42.9	1.2
	Galleta	0.0	0.0
	Indian ricegrass	16.4	0.2
	Total Grasses	59.4	1.4
Total Perennial Plants		82.8	5.6
Total Annuals		1.4	38.5
Wildlife			
Erosion Classification		Stable	

IV. SUMMARY

Revegetation is typically considered successful when a pre-determined level of perennial plant density and cover is achieved. The pre-determined values are usually a percentage of the plant cover and density on adjacent, undisturbed plant communities that are similar to the vegetation community that had been disturbed and was revegetated. A percentage was not established for the revegetation of any of the closure sites on the Tonopah Test Range, however, a typical percentage used to determine reclamation success is 70% and is usually made, at the earliest, five years after revegetation is completed and more typically in the tenth year following revegetation. This year is the seventh year since revegetation occurred at CAUs 400-Five Points Landfill, 400-Bomblet Pit, 404-Rollercoaster Sewage Lagoons and 426-Cactus Springs Waste Trenches. Undisturbed plant communities, reference sites, are sampled annually at each CAU. Revegetation of CAU 407 originally occurred in 2000 (five years ago), however, the site was disturbed after that time and was seeded again this past fall, 2004.

The plant density and cover estimate data collected this year was summarized and compared to data collected from reference areas. Based on both perennial plant density and perennial plant cover all of the sites exceed the reclamation success goal of 70% of the density and cover on the respective reference areas.

CAU 400: Five Points Landfill - Plant density at this site is the lowest plant density of any of the CAUs that were revegetated in 1997 (Figure 4). Although there are less than 2 plants/m^2 it exceeds the goal of 1.3 plants/m^2. The plants that are establishing on the site are fourwing saltbush, winterfat, squirreltail grass and Indian ricegrass, all species native to the area. This year there was an abundance of native perennial species. To date there have not been any problems with invasive weedy species at this site. The newly reseeded portion of the site should be monitored to insure such species do not impede the establishment of native perennial species.

Plant cover at this site was about 10%, which is the lowest that it has been since the site was reseeded (Figure 5). The low cover is in part due to the dry conditions that have existed at the site for the 2-3 years prior to this year and also to the flash flood that impacted a significant portion of the vegetation last fall. Although plants may not have recovered fully from the drought and flash flood, perennial plant cover still exceeds the plant cover goal of 8% (70% of the 11% measured this year). The drier conditions experienced in this region the previous 3 years appear to have affected grasses more than shrubs. The contribution of grasses to overall perennial plant cover has declined over the last few years from a high of 80% of the cover in 2000 to only 13% this year.

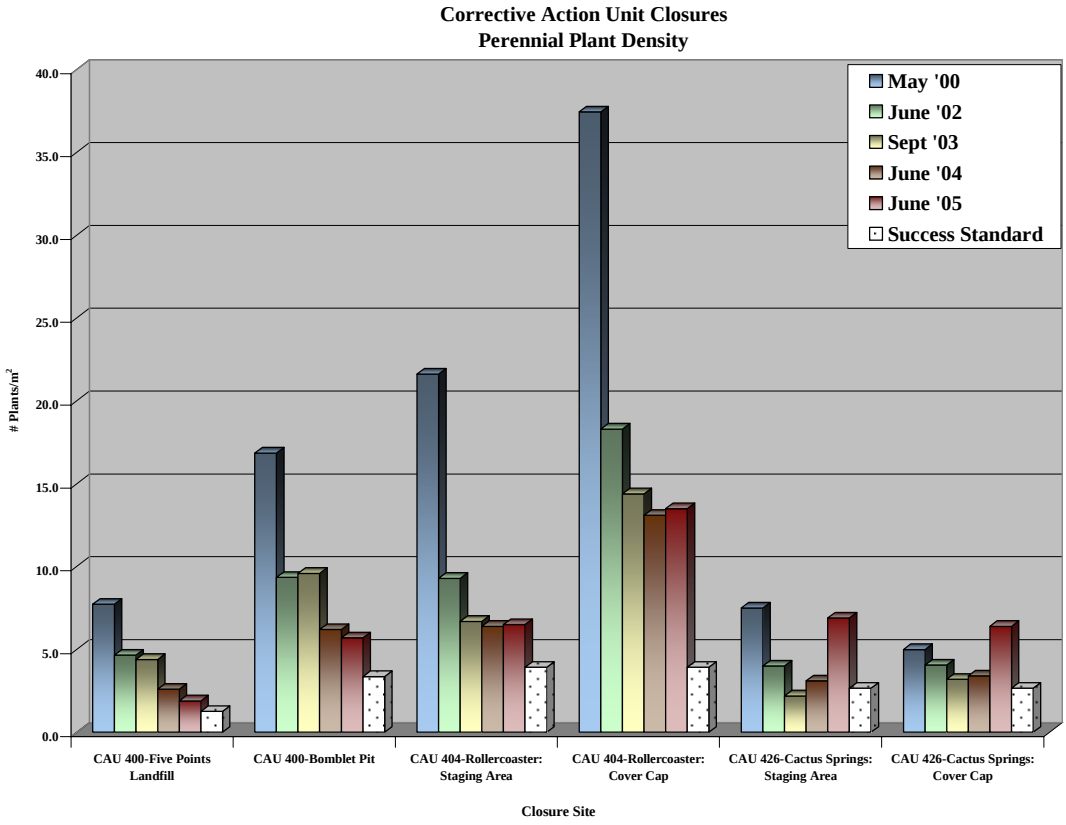


Figure 4. Plant density on all CAU s over the last five years and compared to plant densities on adjacent native plant communities.

CAU 400: Bomblet Pit – Perennial plant density at this site continues at around 6 plants/m^2, which is higher than the density measured on the reference area and almost double the goal of 3.4 plants/m^2 (Figure 4). Over the last couple years density has declined as has plant diversity or the number of different species present on the site. Bud sagebrush, shadscale and winterfat are still found on the site, but this year there were no grasses encountered nor were there any individuals of fourwing saltbush found. Grasses are not an important component of this vegetation type as indicated by density data for the reference area, but Indian ricegrass has been present in previous years. Possibly with more favorable growing conditions, like this year, grasses will again establish and contribute to overall plant density.

Plant cover was not as high on the revegetated site as it was on the reference area, but the goal of 8% total plant cover was met. There was 8.8% cover on the revegetated site (Figure 5). It appears that even though plant density has declined, those plants that are present are established and have been able to withstand the previous dry conditions. There has been no grass cover at this site since 2000.

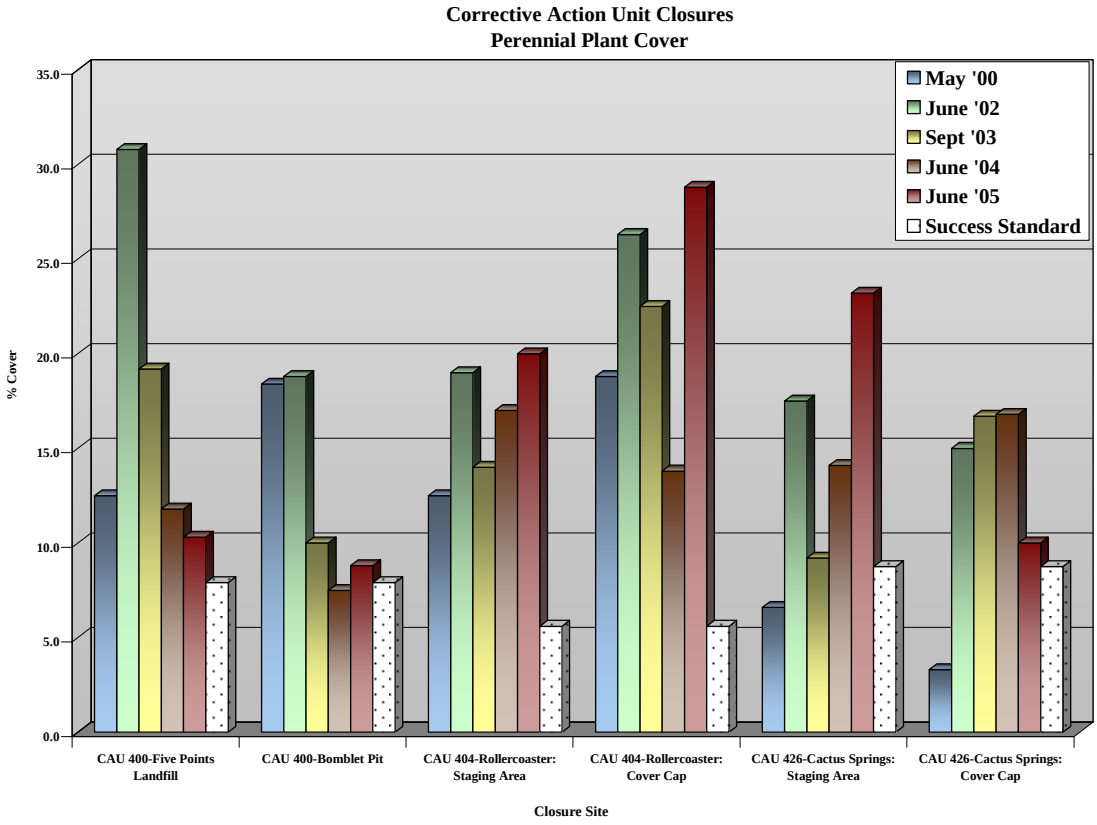


Figure 5. Plant cover for all CAUs over the last five years and compared to plant cover on adjacent native plant communities.

CAU 404: Rollercoaster Sewage Lagoons - Of the four CAU that were revegetated in 1997 the Rollercoaster Sewage Lagoon site has recovered the best from cleanup and closure activities. Perennial plant density on both the staging area and cover cap has been about the same for the past three years (Tables 5 & 6), which is higher than absolute plant density on the reference area. The revegetation goal of about 4 plants/m^2 has been exceed for the past five years (Figure 4). On the cover cap perennial plant density is more than double what it is in the native plant community. Shadscale is by far the most abundant species on both the staging area and cover cap. There is a consistent representation of bud sagebrush, fourwing saltbush, Indian ricegrass and galleta grass.

Plant cover likewise has exceeded the revegetation goal for the last five years (Figure 5). In fact, perennial plant cover on the staging area has been almost double what it has been on the reference area the last couple years. Of some concern is the loss of the contribution of grasses to overall perennial plant cover on the staging area. Only 3-4% of the total cover is made up of grasses, whereas on the reference area about 13% of the cover is grass cover. On the cover cap perennial plant cover is even higher and is more than three times what it is on the reference area. Unlike the staging area grasses make up 35% of the total perennial plant cover on the cover cap. The contribution of grasses has ranged from a high of 66% in 2000 to a low of only 28% in 2004. Plant density appears to have stabilized and cover fluctuates with amounts of

precipitation. Perennial plant density and cover on both the staging area and cover cap at CAU 404 have met and exceeded revegetation success goals for the last five years.

CAU 426: Cactus Springs Waste Trenches - This is the first year in several years that perennial plant density on staging area and cover cap have exceeded plant density on the reference area (Tables 7 & 8). The revegetation goal of 2.7 plants/m^2 has been exceeded every year for the past five years on the cover cap and all except one year on the staging area (Figure 4). On the staging area the majority of the plants are grasses, primarily squirreltail grass with some Indian ricegrass. On the cover cap there is a good representation of both shrubs and grasses. There is an equal representation of two shrubs, Nevada jointfir and rubber rabbitbrush, and about twice as much Indian ricegrass as there is squirreltail grass.

The goal of 9% perennial plant cover this year on the revegetated sites was exceeded both on the staging area and the cover cap (Tables 7 & 8). On the staging area cover was more than double this goal. Perennial plant cover on the cover cap met the revegetation goal, but was actually lower than the absolute plant cover on the reference area. This year for the first time there was no perennial grass cover recorded. All of the cover on the cover cap was from shrubs. On the staging area grasses accounted for nearly three-fourths of the total perennial plant cover.

CAU 407: Rollercoaster RADSAFE - Last year the lack of vegetation on the cover cap at this site had resulted in rather severe erosion. Remedial action was taken last fall and the site was revegetated. After one growing season there is an abundance of seedlings of perennial plants. There were seedlings of bud sagebrush, fourwing saltbush, shadscale and winterfat over much of the site along with squirreltail grass and Indian ricegrass. Several species that were seeded but not encountered were Nevada jointfir, rubber rabbitbrush and galleta grass. Hopefully over time some of these species, native to the area, will establish on the site.

Appendices to this report contain a photographic history of revegetated sites (Appendix F.1) and a list of scientific names and common names of plant species encountered during vegetation monitoring (Appendix F.2).

APPENDIX F.1

PHOTOGRAPHIC REFERENCE POINTS

CAU 400-FIVE POINTS LANDFILL
PHOTOGRAPHIC REFERENCE POINT

June 1998

June 2000

June 2002

June 2003

June 2004

June 2005

CAU 400-BOMBLET PIT
PHOTOGRAPHIC REFERENCE POINT

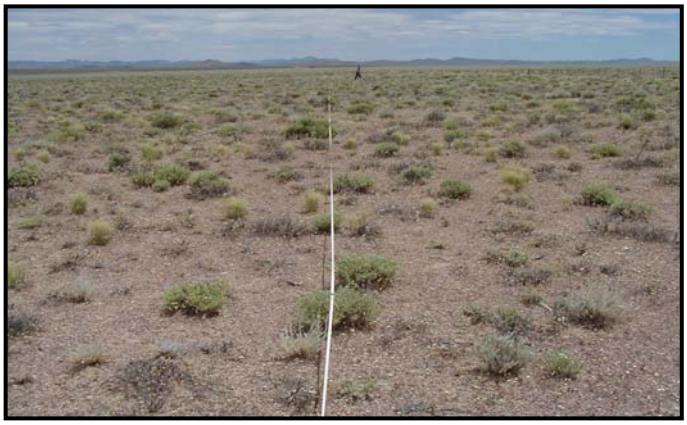
June 1998

June 2000

June 2002

September 2003

June 2004



June 2005

CAU 404-ROLLERCOASTER SEWAGE LAGOONS COVER CAP
PHOTOGRAPHIC REFERENCE POINT

June 1998

June 2000

June 2002

September 2003

June 2004

June 2005

CAU 404-ROLLERCOASTER SEWAGE LAGOONS STAGING AREA
PHOTOGRAPHIC REFERENCE POINT

June 1998

June 2000

June 2002

September 2003

June 2004

June 2005

CAU 426-CACTUS SPRINGS WASTE TRENCH COVER CAP
PHOTOGRAPHIC REFERENCE POINT

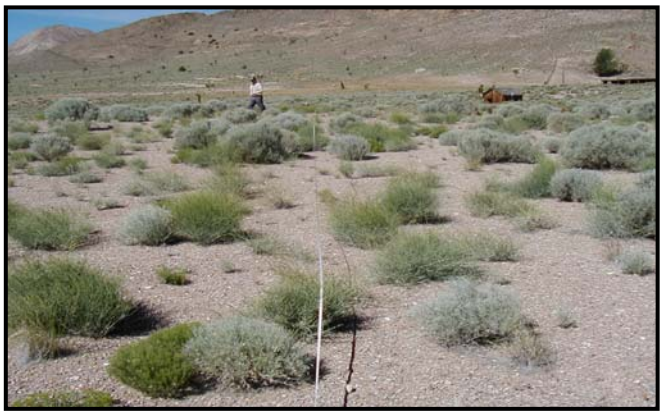
June 1998

June 2000

June 2002

September 2003

June 2004



June 2005

CAU 426-CACTUS SPRINGS STAGING AREA
PHOTOGRAPHIC REFERENCE POINT

June 1998

June 2000

June 2002

September 2003

June 2004

June 2005

CAU 407-ROLLERCOASTER RADSAFE AREA
PHOTOGRAPHIC REFERENCE POINT

June 2002

June 2003

June 2004

June 2005

APPENDIX F.2
PLANT SPECIES LIST

Lifeform	Scientific Name	Common Name
Shrubs	*Artemisia nova*	Black sagebrush
	Artemisia spinescens	Bud sagebrush
	Atriplex canescens	Fourwing saltbush
	Atriplex confertifolia	Shadscale saltbush
	Chrysothamnus greenei	Greene's rabbitbrush
	Chrysothamnus viscidiflorus	Low rabbitbrush
	Ephedra nevadensis	Nevada jointfir
	Ericameria nauseosa	Rubber rabbitbrush
	Gutierrezia sarothrae	Broom snakeweed
	Hymenoclea salsola	White burrobrush
	Krascheninnikovia lanata	Winterfat
	Menodora spinescens	Spiny menodora
	Opuntia pulchella	Sand cholla
	Sarcobatus vermiculatus	Black greasewood
Grasses	*Achnatherum hymenoides*	Indian ricegrass
	Elymus elymoides	Bottlebrush squirreltail
	Bromus tectorum	Cheatgrass
	Dasyochloa pullcha	Low woollygrass
	Pleuraphus jamesii	Galleta grass
	Sporobolus airoides	Alkali sacatoon
	Sporobolus cryptandrus	Sand dropseed
Forbs/ Annuals	*Ambrosia* species	Ragweed
	*A*stragalus *lentiginosa* var. *fremontii*	Fremont's milkvetch
	Astragalus species	Milkvetch
	Camissonia boothii	Booth's suncup
	Camissonia species	Suncup
	Chaneactis xantiana	Xantus pincushion
	Chenactis steviodes	Steve's pincushion
	Chenopodium album	Lambsquaarters
	Cryptantha circumscissa	Cushion cryptantha
	Cryptantha micrantha	Red root cyrptantha
	Cryptantha species	Cryptantha
	Cymopterus species	Springparsley
	Descurania pinnata	Pinnate tansymustard
	Eriastrum eremicum	Desert woolstar
	Eriastrum sparsiflorum	Fewflower woolstar
	Eriogonum deflexum	Flatcrown buckwheat
	Eriogonum nidularium	Birdnest buckwheat
	Eriogonum species	Buckwheat
	Eriogonum species	Buckwheat
	Erodium cicutarium	Filaree
	Gilia nyensis	Nye gilia

APPENDIX F.2 (continued)
PLANT SPECIES LIST

Lifeform	Scientific Name	Common Name
Forbs/	*Gilia* species	Gilia
Annuals	*Halogeton glomeratus*	Halogeton
	Ipomopsis polycladon	Manybranched gilia
	Lepedium flavum	Yellow pepperweed
	Lepedium lasiocarpum	Shaggyfruit pepperweed
	Lepedium montanum	Mountain pepperweed
	Lepedium species	Pepperweed
	Lupinus species	Lupine
	Macheranthera canescens	Hoary macharanthra
	Mentzelia albomarginatus	White blazingstar
	Mirabilus biglovei	Bigelow's four-o'clock
	Oenothera species	Eveningprimrose
	Phacelia crenulata	Cleftleaf wildheliotrope
	Phacelia species	Phacelia
	Salsola tragus	Prickly Russian thistle
	Sphaeralcea ambigua	Desert globemallow
	Stephanomeria exigua	Small wirelettuce
	Tiquilia plicatas	Fanleaf tiquilia

APPENDIX F.3
EROSION CONDITION CLASSIFICATION

Surface Litter	Pedestalling	Rills <9"	Rills > 9"
1 Accumulating in place	1 No visual evidence	1 No visual evidence	1 No visual evidence
2 Slight Movement	2 Slight pedestalling	2 Rills in evidence at intervals > 10'	2 Rills in evidence at intervals > 10'
3 Moderate Movement	3 Small rock & plant pedestalling	3 Rills at 10' intervals	3 Rills at 10' intervals
4 Extreme movement	4 Pedestalling plants roots exposed	4 Rills at 5-10' intervals	4 Rills at 5-10' intervals
5 Very little remaining litter	5 Most plants & rocks pedestalled & roots exposed	5 Rills at <5' intervals	5 Rills at <5' intervals
Rating _____	Rating _____	Rating _____	Rating _____
			Total _____

Numerical Rating	Erosion Condition Class
0.0 to 4.0	Stable
4.1 to 8.0	Slight
8.1 to 12.0	Moderate
12.1 to 16.0	Critical
16.1 to 20.0	Severe

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